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FIRST PRINCIPLES

OF

HOUSEHOLD MANAGEMENT

AND

COOKERY.

A Text-Book for Schools and Families.

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BY

MARIA PARLOA.

BOSTON:
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The Riverside Press, Cambridge.
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PREFACE.

THE object of this little volume is to spread a knowledge of the common things of every-day life among all the people. Physicians, and others qualified to give an opinion, testify that the foundation for disease, intemperance, and crime is nearly always impure air and water, food improperly cooked, or uncleanly and disorderly homes. The author has long had a desire to help remedy these evils, and while studying the South Kensington, and the Board Schools in London, last year, was convinced that the English people had solved the question as to how and where the reform should begin.

In the city of London there are twenty-one practice kitchens, where girls of eleven years of age and upward are sent for practice lessons in the preparation of the plainest dishes. Before these lessons, however, they study a manual of the composition of food, and the principles underlying its preparation. They also learn the simplest rules for the care of the body

and dwelling. The schools have been in successful operation for two years, and have done a wonderful amount of good. The same method is followed with marked effect in the manufacturing and mining districts.

After seeing all this, the determination was taken to write a book that could be used in the schools and families of America with like beneficial results. In this work the aim has been to state clearly the causes of disease and the prevention of the same through sanitary laws; the order of household work; the composition and preparation of food, with sick-room cookery; and to give a few hints on the care of the sick. In treating subjects of such importance, it has been difficult to decide what to omit, and yet make the work complete; but the kind reception of the Appledore Cook-Book, and the generous support given it during the past seven years, lead the author to hope that this volume may, too, find favor with the public.

BOSTON, *August* 23, 1879.

NOTE TO THE TEACHER.

Six dishes are all that can be cooked in a lesson. That the pupils might be able to prepare a variety of food in their own homes, more than that number has been given.

The teacher will use her judgment in selecting from each lesson.

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FIRST PRINCIPLES
OF
HOUSEHOLD MANAGEMENT.

CHAPTER I.

THE AIR WE BREATHE.

1. The earth is surrounded by an atmosphere of air, the height of which is about forty-five miles. We could not live a moment without this air, for we take it into our bodies with every breath we draw. It is a mixture of several kinds of gases, four of which are necessary to its composition.

2. Two of the four elements form nearly its entire bulk; these are oxygen and nitrogen, one fifth being oxygen and nearly four fifths nitrogen. The other two elements are carbonic acid and watery vapor.

3. Oxygen comprises one fifth of the air, three fourths of all animal bodies, eight ninths of the water and about one half of the crust of the earth.

4. It has neither taste nor smell, but it keeps the air pure and healthy, and is the chief supporter of animal life. Fires and lights burn only because of oxygen.

5. After a hall or lecture room has been occupied for any length of time, if the ventilation is not good

the lights will begin to burn dimly, and the people will begin to feel drowsy and oppressed. But if the windows are opened, the pure air filled with oxygen rushes in, and the poisoned air filled with carbonic acid gas rushes out. The people begin to breathe easier and feel better, and the lamps burn brighter.

6. In breathing we take air into our lungs; there the blood absorbs the oxygen and carries it through the body, where it burns up all the waste tissue, and so keeps our bodies warm, strong, and healthy.

7. It is oxygen which makes fruit and vegetables decay, and meat and fish "spoil." For this reason, when we wish to keep any of those things for any length of time, we make them boiling hot, to free them from the oxygen, and then seal them in a jar so tight that no air can enter. If kept perfectly free from this gas they will keep for years.

8. You will ask what is the use of nitrogen in the air? The nitrogen dilutes the air. If the air were undiluted oxygen, animal and vegetable life would burn out too rapidly. "A mixture of the fiery oxygen and the inert nitrogen gives us the golden mean. The oxygen now quietly burns the fuel in our stoves and keeps us warm; combines with the oil in our lamps and gives us light; corrodes our bodies and gives us strength; cleanses the air and keeps it fresh and invigorating; sweetens foul water and makes it wholesome; works all around us and within us a constant miracle, yet with such delicacy and quietness we never perceive or think of it until we see it with the eye of science." (Steele.)

9. **Carbonic Acid.** — Carbonic acid, like oxygen

and nitrogen, is without color, but it has a slight odor and a sour taste. By mixing two parts cream of tartar and one of soda, and wetting them, you can obtain carbonic acid. When soda is added to vinegar, sour milk, lemon juice, or any liquid acid, carbonic acid is produced.

10. When bread is risen by yeast, carbonic acid is produced.

11. It is carbonic acid which gives soda water its peculiar taste, and also causes it to foam.

12. Carbonic acid is a poison to animals if they breathe in much of it, but it is the food of plant life, just the same as oxygen is the food of animal life, and vegetation could no more live without it than we could without the oxygen. This is one of the reasons why people are so much healthier in the country than they are in the city. The leaves of plants which are constantly in the sunlight and are their lungs, breathe in carbonic acid and breathe out oxygen. Thus, we see, vegetation is in great part fed with a gas which is poisonous to animal life. We are breathing in oxygen and breathing out carbonic acid all the time.

13. **Watery Vapor.** — By watery vapor is meant the steam, whether visible or not, which rises from the surface of water when exposed to the air.

14. If it were not for this vapor, vegetation would dry up, and animal life would soon perish also.

15. Besides the vapor which comes from water, there is the animal vapor which we throw out from our lungs and the pores of the skin. This is very impure, and causes much disease.

16. Now that we know what the great bulk of the

air is composed of, and what is good for vegetation and what for animal life, we want to know how we can have pure air at all times.

17. When we are out-of-doors we nearly always have pure air, except it be in very crowded streets; so in the houses where we work and mostly live we must consider ventilation, or letting out the bad air and letting in the good air.

CHAPTER II.

THE HOUSE WE LIVE IN.

1. When possible, the house we live in should have the sunshine on every side of it some part of the day. Trees should not be so near as to shade it from the sun. Windows should open from top and bottom. On the top of a hill it is much more healthy than at the sides or bottom.

2. If there is a cellar under the house, great care must be taken that it is well ventilated, and kept perfectly clean and free from all decaying vegetation. If the house is built without a cellar, it should be raised from the ground at least two or three feet, that a current of air may pass freely under. This is the general mode of building in southern countries. In cold, northern climates a cellar is necessary, both to keep the house warm, and that there shall be a place to keep vegetables and fruit from freezing during the winter months.

3. There should be a supply of fresh air coming through a window or open fire-place in every room *all* the time, *night* and *day*. This is the only way by which the air in a room can be kept perfectly pure.

4. A full-grown person takes about one pound of air into his lungs every hour, so it would not take long to use up all the pure air in a room without ven-

tilation, as in a room twelve feet square and eight feet high the air will weigh but ninety pounds! Besides, every time a breath is taken and the oxygen breathed, carbonic acid is also thrown off; animal vapors, too, from lungs and skin make the air impure. The fire burning in a close stove, the lamp or gas burning, all use up the oxygen.

5. In the summer, during the day, there is little trouble about ventilation, because it is pleasant to have windows and doors open. But at night there are people who sleep with closed windows because they don't like to breathe night air, just as if they could breathe anything else at night. After a person becomes accustomed to sleeping with open windows, there is never danger of taking cold, winter or summer.

6. One safe way, where persons are very sensitive to cold, is to have a board the exact width of the window, and about three or four inches deep; raise the lower sash and place this under it, and there will be an upward current of air which will be sufficient to purify the room, while no draught will be felt.

7. Every morning open the windows of the sleeping rooms, strip the beds, spreading the clothes over the chairs, and let them air at least an hour. There is no greater purifier than the sun. Bed-clothes and mattresses should be well sunned at least once a week.

8. In the kitchen, where cooking and other work is being done, the window should always be dropped from the top. Where wash-bowls are set in sleeping rooms, great care should be taken that the waste-pipe

is kept closed when not being used, as poisonous gases often enter a room in that way, brought from the sewers, causing many diseases.

9. A bed that has been made up a week or more is not fit to sleep in, as moisture gathers, which often proves fatal to persons sleeping in one.

10. If carpets are used on the floors, far better is it that the colors should fade from letting the sunlight in upon them, than the bright hues remain with the sunshine shut out. Remember, always, that the sunshine is one of God's best gifts to use, and that it is sinful to shut it out of our houses for the sake of a carpet or curtains.

11. Flowers brighten, cheer, refine, and make our homes healthful; they grow particularly well in the kitchen, where the heat is even and the air moist from the steam, and here the sun is seldom shut out.

CHAPTER III.

THE WATER WE USE.

1. THE water we use is of as great importance as the air we breathe. It forms three fourths of the surface of the earth, and about three fourths the weight of living animals and vegetables.

2. Pure water is composed of oxygen and hydrogen, eight ninths of its weight being oxygen, and one ninth hydrogen. Hydrogen, like oxygen, has, when a pure gas, neither color, taste, nor smell.

3. In the waters of our wells and rivers there are also vegetable, animal, and mineral substances, beside the gases of the air. The animal and vegetable substances are considered unhealthy by nearly all chemists and physicians, but there is a great difference of opinion in regard to the mineral. The gases from the air give the water a bright, pleasant taste.

4. The purest water we have is rain water collected in the country; after a shower has cleared the air and washed off the roofs of the houses, it is run into cisterns, where sometimes it is filtered. The cisterns should always be exposed to pure air, as the air not only gives flavor to the water, but oxygen, which purifies it by burning up all decaying animal and vegetable matter. Cisterns are divided into two parts; the one where the water first enters being divided from

the other by a filter, which is made of iron, sponge, charcoal, and sand, purifying the water for use.

5. In large towns and cities we do not have wells, because there would not be water enough for all the people, and also the water would be very bad, causing all kinds of dreadful diseases.

6. There are water companies who bring water through pipes from rivers and lakes in the country into reservoirs in towns and cities. In the reservoirs it is strained or filtered, and exposed to the air; and if it is located on a high hill, when it is let into pipes it will run to the upper stories of houses not higher than the reservoir.

7. It is the wells and cisterns in the country that we want to know most about, as we have no control of the water used in large towns or cities.

8. **Well Water.** — We dig a deep hole in the ground and it fills with water. In some places we must dig very deep indeed before we reach water, which makes the well cost much money. But it is better to pay a good deal of money for a deep well where the water is pure, than to pay doctors for trying to cure us of sickness caused by drinking water from a shallow well which gathers impurities from the soil.

9. Where does the water that flows into the wells come from? You will answer, Out of the earth. Yes, but how does it get into the earth? You will notice that when there has been no rain for a long time the water in the wells gets very low, and some wells grow entirely dry. The wells that dry first are always the shallow ones, and the last ones are the deep ones. Thus we see that the rain waters the earth, and filters

into the wells. It is just like pouring a liquid which we wish to make clear into a sieve. If the sieve is coarse, the liquid is not perfectly clear; if we keep on pouring it through one sieve after another, and each sieve be finer than the last, we will soon have it nearly pure; if there is anything dissolved in it, of course that will go through the finest sieve. Now the deeper the well the purer the water, because the earth is like the sieves, which keep back all the undissolved impurities. In light sandy soils the water filters through very rapidly, and carries with it much impure matter. If the well is near the house, and there are soap-suds or slops, etc., thrown on the ground near it, the rain will carry those impure washings through the earth into the well water. Water from a well so situated is like slow poison, causing many diseases, the most common being fevers. Many people sicken and die from drinking it. Thoughtless people often do their washing near their well, throwing the dirty water upon the ground; or they have no sink-drain, so all the waste water is thrown out of doors and windows, to be finally washed into their well, keeping it poisonous all the time, while they wonder what makes so much sickness in their family.

10. We can see that the rain that falls within a few feet of the well would not be enough to keep the well full of water, but that it must come from some distance, so manure heaps should be at a great distance to prevent them from rendering the well foul.

11. Another source of poisoning is the leaves which fall into the water and decay in the well. It is best

to build a roof over the top, keeping it open at the sides for the air to enter, while the leaves are kept from blowing in. If what I have said about wells will make plain to thousands of people who are daily drinking poisoned water the necessity of keeping the well pure, that they may keep their health, I shall feel well repaid for the labor of writing this little book.

12. Many people living in the country are not rich enough to have a good system of drainage, and many can have none at all. To these the trees and plants do good service, vegetation using for its food what would otherwise serve to poison animal life.

13. A good plan is to have a large tub or barrel placed on a strong wheelbarrow and set in a convenient place where the sun does not shine, and throw into this all slops, which can be easily carried to grove or orchard for watering the trees, and enriching the soil.

14. Remember that you are poisoning people slowly, but as surely, every time you throw dirty water near a well, as if you deliberately put arsenic into it.

15. The usual criterion of pure water is that it shall be "perfectly free from color, taste, or smell; be cool, soft, bright, well aerated, and entirely free from all deposit." This standard is a good general one, but will not always hold true.

16. The city of Savannah, Georgia, is supplied from the Savannah River, which flows through a great deal of yellow clay country, and the water, as we found it on the hotel tables, retained its muddy, dark appearance. The water that you get at hotels

and restaurants in Paris, France, is perfectly clear, bright, and pleasant to the taste, but people fear to drink it. Where there is any doubt of the purity of the water, it is always safest to boil it before drinking, because this destroys the vegetable and animal life it may contain; and if it holds mineral matter, boiling causes that to fall to the bottom of the vessel, allowing the pure water to be poured off. But in boiling you lose the gases, so the water is tasteless and flat.

17. **Hard and Soft Water.** — Soft water is considered by many as the most healthful. Tea and coffee made with soft water are much stronger and better flavored. Vegetables and meats boil more quickly and are more tender when boiled in soft water. Clothes wash more easily and are whiter, needing less soap and labor to cleanse them, when using soft water.

18. In using water for washing, cleansing, cooking, therefore, soft water is the best. Some physicians and chemists claim that hard water is very unhealthy, while others think that persons drinking it have stronger muscles. The French authorities supply the city of Paris with hard water, preferring it to soft, because they found that more conscripts from the soft-water districts are rejected for lack of muscle than from the hard-water districts.

19. Water that has minerals dissolved in it, however, affects different people differently. The water filtering through the earth dissolves some of the minerals over which it flows, the most common of which are lime, salt, magnesia. Where there is a great deal

of lime in the water it curdles the soap, produces a fur on the kettles, and clings to the clothes boiling in it, giving them a dark, dingy look.

20. Washing soda and borax are used to soften the water for washing and cleansing, when too hard.

CHAPTER IV.

HOUSE WORK.

1. We know now that to be perfectly healthy our houses must be kept entirely clean, and have plenty of fresh air and sunlight. The first thing in the morning, then, is to open the windows wide in the sleeping rooms, and take all the clothes from the beds, spreading them upon chairs, where the air can pass through them freely and carry off the impurities which were thrown out from the body through the pores of the skin during the night. The bed and bedding should be aired not less than one hour.

2. While the rooms are being purified by fresh air, the breakfast should be prepared, the table set, the kitchen and sitting-room put in order.

3. First build your kitchen fire, brush off and blacken the stove or range; then sweep the floor and dust the room. Rinse out the tea-kettle, fill with fresh water, and put upon the stove. Set the breakfast plates into the heater. Take out the ashes and sift them.

4. Now set the table, while the breakfast is being cooked. Have everything clean, hot, and on time.

5. After breakfast, wash the dishes in clean hot soap and water, first washing the glass, which wipe perfectly dry with a clean soft towel; then the silver,

next the cups, saucers, pitchers; then the plates and other china dishes. All but the glass and silver ware should be rinsed in clean hot water. As soon as the dishes are finished and put away, wash the cooking dishes, being as careful to have clean water and towels for them, as for the china, and washing, rinsing, and wiping them as carefully. The tins and iron pans should be wiped with a dry towel, and then put on the hearth to dry perfectly, as they rust very easily and quickly. Pots, kettles, and fry pans should be put into the pan of hot water, and the outsides should be washed as carefully as the insides. Unless the water is very hard, there is no need of putting soda into the water for cleaning kitchen dishes, any more than for glass or silver. The wire dish-cloth helps wonderfully in cleaning cooking dishes, and does not scratch them. Using very coarse sand to scour with scratches the tin off in places, and then the dishes soon begin to rust. Wood ashes, for this reason, is better than sand, and sapolio, a soap which comes for cleaning, is better than either.

6. The dish towels should be washed and thoroughly rinsed every day, and when it is possible dried in the open air. The habit of drying the dish-water into the towel is a very filthy one. On wash days, a new set of towels should be taken for the week, and those that have been used should have a thorough washing and scalding. Let them, if possible, remain on the line over night.

7. When steel knives are used, they should be cleaned after every meal; first by washing perfectly clean, then by placing on a board perfectly flat and

rubbing with fine Bristol brick dust wet with water, applied with a large cork, until the blades are perfectly bright. Now wash again in clean warm water, and wipe dry. The handles of the knives should never be put into the water.

8. When all the dishes are washed, every part of the sink should be thoroughly washed with plenty of hot water and soap with a cloth kept for that purpose; then rinse with hot water. So necessary for cleanliness is hot water, that a good housekeeper should keep the kettle or tank always well filled, that it may be ready for use.

9. **Rule for Keeping Hot Water.** — Every time you take water from the kettle fill with cold.

10. Now the dishes are all washed and put away, and everything is clean in the kitchen, the dining-room must be swept, dusted, and put in order. As soon as breakfast was over, the windows of this room should have been opened to air while the kitchen work was being done. After sweeping it, leave the dust time to settle, while the chamber work is being done.

11. **Chamber Work.** — The first thing to do after turning the mattresses and making the bed is to empty the slops, and with clean hot water wash out the glasses, pitchers, and bowls, and then the slop pans. Have separate cloths for the bowls, pitchers, etc., and the slop jars, and never use the toilet towels for this purpose. Now dust the room, put things in place, and, if in summer, close the blinds, and the room is finished.

12. Except upon sweeping days, which should be once a week, this is about the usual work for a sleep-

ing-room. All the rooms and halls should be dusted every day. Such rooms as are used by many people during the day should be thoroughly swept each morning.

13. The dining-room must next be dusted and closed. The reason why the dishes must be washed and the kitchen put in order first is that they wash more easily than if the food has time to harden on them, so time and labor are saved. Then if dishes and food are allowed to stand upon the tables they collect flies, and food left in the hot kitchen dries or spoils. This order of doing the work gives the beds time to air and the rooms to be purified.

14. **To wash Floors and Tables.** — All wood has what is called the "grain of the wood." It runs up and down the board, and not across it. To wash plain wood work, then, you must rub the cloth or brush up and down the board, not across. Too much soap makes white pine boards yellow. Have clean, coarse cloths, perfectly free from grease, and plenty of hot suds; also a scrubbing-brush. First wash the table with a cloth, then dip the brush into the hot suds and rub with the grain of the wood; when you have thoroughly scrubbed it, wash off with the cloth, wiping off all the soapy water, then wash off with clean hot water, and wipe very dry. Wash white floors in the same manner. Floors should be washed only on bright days. Bedroom floors should be washed early in the day, as it is very dangerous to sleep in a damp room.

15. The cellar must be looked after every few days that nothing be left to decay or spoil there. Much

sickness comes from cellars that are not well aired, and where old vegetables are allowed to decay. No poison in the air is more deadly than that from decaying vegetation. In the autumn many fevers arise from the poisoned air caused by the dying plants and falling leaves.

WASHING.

1. The first days of the week are always best for washing, because the clothing is then washed nearly as soon as changed, and so more easily, as the dirt does not have time to harden in them. Also, because dirty clothes are very unhealthy to have in the house; and, again, it is the time set apart for this work in nearly all families, and therefore people are less liable to interrupt on "wash-day;" lastly, it is best to have the work planned for each day, and then it will be sure to get done in time.

2. For washing you must have plenty of water and soap, and if the water is hard add a little washing soda or borax.

3. Look the clothes over carefully, putting the cleanest by themselves to be washed first. Have two tubs, which about half fill with warm water in which has been dissolved soap enough to make a good suds (hard water will take more than soft). Into one tub put the cleanest articles, having the most soiled at the bottom; into the other tub put the rest of the clothes, always remembering to have the most soiled at the bottom of the tub. Have a third tub of soap suds, hot as you can bear your hands in it. Shake all the dust and lint out of the flannels, putting the cleanest white ones into the hot suds, and wash very carefully,

squeezing and washing them through the water again and again. When clean put them into a pail of clear hot water and rinse very thoroughly. Wring dry, shake out well, and hang in the sun to dry. Flannels washed in this way will not shrink or harden. When nearly dry they should be taken in, folded carefully, and rolled up in a damp cloth so that they shall iron smoothly.

4. For the white clothes, half fill the tub in which the flannels had been rubbed with clean warm water. Now begin with the cleanest articles and wash them carefully; wring them out and put into the tub of warm water; rinse out of this, and put soap on the most soiled parts, which in under-clothes are the bands, sleeves, and waists. Place all in the boiler, with cold water enough to cover them, and let them come to a boil; then take them up and put them in a tub of clean cold water, rinse them thoroughly in this water, then rinse again in warm water which has been slightly blued, wring very dry from this, and hang out. Before being taken from the lines they should be entirely dry. Wash all of the clothes in this manner, having a basket full ready as fast as each boiler full is scalded. Boiling does not improve the clothes. If there are fruit stains on the table-cloths or napkins, lay the stained part over a bowl and pour boiling water through the stain until it disappears. Ink stains will nearly always come out if the article washed is rubbed out in cold water while the stain is fresh.

5. Never use soap on any stain first. Machine oil is taken out of cloth by rubbing a little lard or butter on the spot, and washing in warm water with a little soap.

6. **Iron Rust.** — Spread the garment in the sun, and cover the iron spot thickly with salt; then wet with juice of lemon. If the sun is bright, the stain will disappear in a few hours.

7. To wash lace or curtains that will bear but little rubbing, take one table-spoonful of borax to two gallons of warm water, and soap enough to make a strong suds. Soak the curtains in this over night, and in the morning add a little hot water, washing them very carefully with the hands. Next put them in another tub of strong, warm, clean suds, and wash out of that in the same manner. If after rubbing the water looks very dark, they will need to be rubbed through still another tub of warm suds. Then scald and rinse as you would other white clothes. Remember that curtains are full of dust and smoke, — so need to have a great deal of water used to cleanse them, but very gentle rubbing. There are less fibres in lace to take up the starch, so it must be dried before starching, unlike cotton or linen articles, and the starch must be boiled thick, being quite hot when used. Never iron lace curtains. Place a mattress in a clean spot which is exposed to the sun; on this pin firmly and smoothly a sheet; then upon this. pin your curtain, being particular to have the sides all straight, and the whole perfectly smooth to dry in shape. You can dry two curtains at a time very well on one mattress, and, if the sun is bright and warm, they will dry in one or two hours.

8. **Starching and Ironing.** — Starch is made in two ways, raw and boiled. Mix four table-spoonfuls of starch with half a pint of cold water, for raw starch,

which, used on collars, cuffs, and shirt-bosoms, will make them very stiff, they being dry when dipped into the starch. Wet them thoroughly, clap between the hands, and then roll up tight in a clean cloth, and in an hour they can be ironed.

9. For a dress, you would use about eight times as much water. In using raw starch, care must be taken that no part of the garment becomes dry before being ironed, as that would prevent there being any stiffness.

10. Boiled starch is made by mixing raw starch with enough cold water to make a thin mixture, — a cup of water to three fourths of starch, — and then pouring boiling water on it till it becomes the thickness you require, stirring all the time you are pouring the water. If for collars and cuffs, it must be quite thick; the articles should be well clapped between the hands, as that spreads the starch evenly through all the threads of the linen. Dry them, and then dampen in cold water, rolling them up in a cloth. They will iron better if they remain thus for ten or twelve hours. Many of the best laundresses add a teaspoonful of butter or lard to every quart of starch. For colored clothing the starch should be thin and cool, the articles being put into it from the rinse-tub. Articles starched with boiled starch must always be dried and sprinkled before ironing.

11. The ironing-sheet must be quite clean, or it will soil the clean clothes, and the irons should be washed once a month, while warm, in warmer water, in which a little lard is melted; this will keep them clean and smooth. They are hot enough to use when a drop of

water will make them hiss. The clothes should be sprinkled and folded the night before being ironed, and, if carefully and smoothly folded, will iron more easily and quickly.

12. If the starch clings to the iron when passing over the starched garments, place upon a board sand or brick-dust, and rub your iron up and down until the starch is rubbed off.

13. Always try your iron on a piece of paper or cloth before putting it upon a garment, to insure its being clean and not too hot. If it is too hot, set where it will cool, but never throw cold water upon an iron, as that makes it very rough.

14. The ironed clothes should hang in a warm, dry room, airing at least twenty-four hours before being folded and put away, as it is quite dangerous to wear clothing or sleep in sheets not thoroughly aired. Persons often are made very ill by carelessness in this particular.

FIRES.

1. Stoves and ranges are now made so that the ashes and cinders can be taken out without making a dust. First gather all the ashes and cinders from the top of the stove into the grate; then put on the covers, shut the doors, and dump the contents of grate into the ash-pan. Take out the ash-pan and empty into the sifter, return the pan to its place, and close the door. Now put shavings or paper into the grate, and place on top several pieces of light wood, crossing each other so there shall be a draft of air through them. Now add three or four sticks of hard wood and set the shavings on fire, opening all the drafts of

the stove. As soon as the wood begins to take fire, cover about six inches thick with fresh coal. Watch the fire now, that the coal does not burn up too red; but just as soon as it has begun to take fire shut up all the oven dampers, keeping open only the slide in front of the grate.

2. Never have the coal come above the lining of the stove. It is a waste of fuel, and the fire will not be so bright and clear because the draft will not be so good. When you are not using the fire, keep the dampers closed; it will be ready when you need it; then open the drafts. For cooking either on top of the stove or in the oven, no matter how hot the fire desired, having the coal come nearly to the top of the lining, the fire ought to last four hours without new coal or poking. If after dinner you wish to have a good clear fire to bake, let the fire burn quite low, then take off all the covers, and with a long poker rake the coals from one end of the grate to the other. When you have raked down all the ashes in this way, and separated all the coal, put in two sticks of hard wood, fill up with fresh coal, and the fire will be quite as good as if you had dumped the old one. When you just wish to keep enough fire to make tea and toast, put on cinders after dinner, and shut all the dampers until twenty minutes before again needed, when opening the dampers will rekindle it.

3. Some chimneys draw better than others, so that the time it takes for kindling a fire cannot always be told.

4. Fires in open stoves and grates are made in the same way, only a blower is fastened on in front of the

grate until the fire burns brightly; after removing the blower the fire will continue, if undisturbed, for from six to twelve hours.

LAMPS.

1. There used to be a great many kinds of oils burned, and of course a great many kinds of lamps suited to the different oils, but now kerosene oil is what nearly every one uses who has not gas in the house. The wick should touch the bottom of a lamp and be trimmed square across.

2. Keep every part of the lamp perfectly clean, or the air cannot circulate freely and the lamp will not burn well. Never burn a lamp when the oil is very low, as a gas collects in the lamp, which is liable to explode.

3. Do not fill the lamp to the very top, as the heat expands the oil, which forces its way out of the lamp, making it both dirty and dangerous.

4. When you light a lamp, do not turn the wick up much at first, until the chimney is gradually heated, because the inside of the glass heats first, and if the heat is strong at first the glass expands too rapidly and breaks.

5. When you take a lamp from a warm room into a cold one, or into a draft, you must first turn down the wick that the chimney may cool a little; a cold current of air striking on a hot chimney will break it as quickly as heating too rapidly.

6. In a very moist climate, like East Florida, or on the sea-shore, the lamp-chimneys break very often; for cool moist air cools glass more quickly than cool dry air does.

7. When using a lamp to light a room, be sure the wick is turned up high enough to burn freely; if not, the room will soon be poisoned with the gas from it.

8. In case of sickness, where there must be a light kept, if you are without a night lamp, place the common lamp in another room or hall, rather than turn the wick too low.

9. To have a bright fire, or a clear blaze from your lamp, it must be remembered that plenty of fresh air is necessary; the lamp must therefore be kept clean, and the stove free from cinders and ashes.

CHAPTER V.

THE HUMAN BODY.

1. THE human body has often been compared to the steam-engine, and no better illustration can be found. In the engine we have a material structure; in the body we have a material structure also, only very much more complicated. The fuel and water with which the engine is fed answers to the food for the supply of the human body. The same agent, air, is used to consume the fuel in both. The burning of the fuel is necessary in both, that work may be done; and the greater the amount of work to be done, the greater must be the supply of fuel.

ANALOGIES OF

THE STEAM-ENGINE AND THE LIVING BODY.

The steam-engine, in action, takes: —	The animal body, in life, takes: —
1. Fuel. Coal and wood, both combustible.	1. Food. Vegetables and flesh, both combustible.
2. Water, for evaporation.	2. Water for circulation.
3. Air, for combustion.	3. Air, for respiration.
And produces: —	And produces: —
4. A steady boiling heat of 212°, by quick combustion.	4. A steady animal heat, by slow combustion, of 98°.
5. Smoke loaded with carbonic acid and watery vapor.	5. Expired breath, loaded with carbonic acid and watery vapor.

STEAM-ENGINE.	LIVING BODY.
6. Incombustible ashes.	6. Incombustible animal refuse.
7. Motive force of simple alternate push and pull in the piston, which, acting through wheels, bands, and levers, does work of endless variety.	7. Motive force of simple alternate contraction and relaxation in the muscles, which, acting through joints, tendons, and levers, does work of endless variety.
8. A deficiency of fuel, water, or air disturbs, then stops, the motion.	8. A deficiency of food, drink, or air, first disturbs, then stops, the motion and the life."

Youmans.

An engine having the speed of sixty miles an hour will consume more fuel and water than one having the speed of only thirty miles an hour; so a person working hard with body and mind will require more food than a person who does but little work. There is a great difference in people as to the amount of food necessary for them, so that it is impossible to lay down a rule showing how much food every person would require.

COMPOSITION OF THE HUMAN BODY.

In a person weighing 154 lbs., the compounds are as follows:—

	LBS.	OZ.	GRS.
1. Water, which is found in every part of the body, and amounts to	109	0	0
2. Fibrine and like substances found in the blood and forming the chief solid materials of the flesh	15	10	0
3. Phosphate of lime, chiefly in bones and teeth, but in all the liquids and tissue . . .	8	12	0
4. Fat, a mixture of three chemical compounds, and distributed all through the body . .	4	8	0

	LBS.	OZ.	GRS.
5. Ossein, the organic framework of bones; chief constituent of connective tissue. Boiled yields gelatine	4	7	350
6. Keratine, which forms the greater part of the hair, nails, skin, and is a nitrogenous substance, weighs	4	2	0
7. Cartilagin resembles the ossein of bone, is a nitrogenous substance, and chief constituent of cartilage; weighs	1	8	0
8. Hæmoglobin gives the red color to blood, and contains iron, is a nitrogenous substance; weighs	1	8	0
9. Albumen is a soluble nitrogenous substance found in the blood, chyle, muscle, lymph; weighs	1	1	0
10. Carbonate of lime, found mostly in the bone, and weighs	1	0	350
11. Hephalin is found in nerves, brain, with cerebrin, mugelin, and several other compounds; weighs	0	13	0
12. Fluoride of calcium is found chiefly in teeth and bones; weighs	0	7	175
13. Phosphate of magnesia is found chiefly in teeth and bones; weighs	0	7	0
14. Chloride of sodium, or common salt, is found in all parts of the body; weighs . . .	0	7	0
15. Cholesterin, glycogen, and inosite are compounds containing hydrogen, oxygen, and carbon; found in muscle, liver, and brain; weigh	0	3	0
16. Sulphate, phosphate, orgarme, salts of sodium, found in all tissues and liquids; weigh	0	2	107
17. Sulphate, phosphate, chloride of potassium, are found in all tissues and liquids; weigh .	0	1	300
18. Silica, found in hair, skin, bone, weighs .	0	0	30

ELEMENTS OF THE HUMAN BODY.

	LBS.	OZ.	GRS.
1. Oxygen, a gas, and supporter of combustion, weighs	103	2	335
2. Carbon, a solid, found nearly pure in charcoal. Carbon in the body is combined with other elements and produces carbonic acid gas, and sets free heat by its burning; weighs	18	11	150
3. Hydrogen, a gas: it is a necessary part of all bone, blood, and muscle; weighs	4	14	0
4. Phosphorus, a solid, found in brain, bones, weighs	1	12	25
5. Sulphur, a solid, found in all parts of the body, weighs	0	8	0
6. Chlorine, a gas, found in all parts of the body, weighs	0	4	150
7. Fluorine, supposed to be a gas, is found united with calcium in teeth and bones; weighs	0	3	300
8. Silicon, a solid, found united with oxygen in the hair, skin, bile, bones, blood, saliva; weighs	0	0	14
9. Magnesium, a metal found in union with phosphoric acid in the bones, weighs	0	2	250
10. Potassium, a metal, the basis of potash, is found as phosphate and chloride; weighs	0	3	340
11. Sodium, a metal, basis of soda, weighs	0	3	217
12. Calcium, a metal, basis of lime, found mostly in teeth, bones, weighs	3	13	190
13. Iron, a metal found everywhere in the body, and is essential to the coloring of the blood	0	0	65
Manganese and Copper Metals. — Faint traces of both these metals are found in the blood and brain.			
14. Nitrogen, a gas, which is a part of all muscle, blood, and bone; weighs	4	14	0

By this table you will see there are sixteen elements in the human body, and we must have food

every day in which all these elements are. We do not take food into the body in the form of elements, except the oxygen, a great part of which we take in the free, uncombined state. This, however, we have found is not so much a food as an agent to burn the food. Now that we know the elements and compounds of the body, we want a simple table which shall tell us what forms our daily food.

CHAPTER VI.

PHYSIOLOGICAL AND CHEMICAL CLASSIFICATION OF FOOD.

Nitrogen compounds are the chief muscular flesh formers. They may yield fat, and, by their oxidation or burning, set free heat and motion.

Carbon compounds are sugar, starch, etc. They produce heat. The carbon and nitrogen compounds are all combustible, that is, they will burn or oxidize in the body.

Water and mineral compounds, such as phosphate of lime and salt, are not combustible, but they are necessary to the building up and repairing of the body.

The flesh-forming foods are sometimes termed the nitrogenous foods, and sometimes albuminoids.

The foods that produce heat are often termed warmth-giving, and sometimes carbonaceous foods.

We must remember that the nitrogenous foods form muscular flesh, and that the carbonaceous foods produce heat; also that one is as necessary as the other to a healthy body. In winter and a cold climate we require more fat and starch to keep the body warm than we do in a hot climate or in summer. Also, we must have a proper supply of such food as goes to build up the bones and muscles.

ALBUMINOUS MATTERS.

1. Albuminous matters are derived from both animal and vegetable sources, but they are more abundant in animal substances, for which reason animal food is richer and more nutritious than vegetable food, and less of it is needed to supply the waste of the body. Albumen is the principal ingredient in the white of the egg. It is found in the blood, and it is this element which makes it grow hard when exposed to the air or heat. Caseine is the albuminous substance of milk, gluten of flour, and is a common ingredient of all vegetable juices. It exists in two states: one soluble in water, the other insoluble.

2. One of the properties of albumen is that of coagulation, that is, hardening. They do not all coagulate by the same method. The white of an egg will harden when heated to the boiling point; the fibrine of the blood coagulates when exposed to the air.

3. Milk will not coagulate when boiled; but if a piece of rennet is added to it, in a few minutes it will harden if it is blood-warm. This property of coagulation belongs entirely to albuminous substances. Another property belonging to them is that they will ferment. This is also a very important property. When milk or soup has become sour, it has fermented; when we put bread to rise with yeast, it begins to ferment; but if the yeast is sweet and the bread does not rise too long, the bread will be sweet.

4. Fermentation will not take place in a very cold or very hot atmosphere, and will be most rapid about 100 degrees Fahrenheit, that is, about as warm as the human body.

5. Albuminous matters are the only ones that putrefy. All substances containing albuminous matter will, when exposed to the air and moisture, become putrefied, and, if it is warm, much more rapidly than in a cold atmosphere.

6. Animal substances do not putrefy at a very high or a very low temperature, that is, if they are kept at the freezing point or boiling. When we say anything is at a low temperature we mean very cold, and when at a high temperature, it is very hot. So when meat or fish are to be kept for some days we either put them on ice, in a chest, or cook them.

7. If there is no moisture, putrefaction will not take place; for this reason meats and fish are often dried in the air and sun, and they will keep for years if kept in a cool, dry place.

MEAT.

1. We will first consider meat, as it contains the most albuminous matter. If we take a piece of lean meat and strip it up very fine, and then wash it in a number of clean waters, rubbing the meat at the same time, we shall wash away all the soluble part, and there will remain only white threads. These threads are the fibres of the flesh, and the substance of which these threads are composed is named fibrine. It is an albuminous article of food. Fibrine also exists in the blood of animals. Heat, when as great as that of boiling water, hardens and shrinks fibrine, but if the heat is less than boiling and is continued a long time, it softens it.

2. Tough pieces of meat are made very tender by stewing a long time, but they must never boil.

3. When the meat has been thoroughly washed to get the fibrine, the albumen is dissolved in the water. This is a very important part of the meat. It dissolves in cold water, but hardens in hot water. If we put a piece of fresh meat in a pan of boiling water, and another piece in one of cold water, and let them cook the same length of time, we shall find that the water in which the meat was put cold is much richer with the juices of the meat than that which was hot when the meat was put in, and that the meat is poorer in flavor and juices than the piece placed in hot water.

4. We see why this is. The hot water coagulates the albumen which is on the surface of the meat; this fills up every little pore, and the juices cannot flow out. But the cold water dissolves the albumen, and draws it all out of the meat. Now if we wish to keep the juices in a boiled piece of meat we must first plunge it into boiling water, and let it boil rapidly for fifteen minutes, to harden the albumen on the outside; then we must set it back where the heat will not be so great, and let it just simmer until done, because we have found that if we boil it the fibres will grow hard and shrivel up. If we wish to make soups, and get all the juices into the broth, we put the meat in cold water and let it heat slowly. We must remember this in broiling and roasting also, — always to have a quick fire for broiling, and when the meat is first put before the fire, or in the oven for roasting, because we first wish to harden the albumen, so that the juices shall not flow out of the meat while cooking.

To stick a fork into a piece of meat while cooking makes great holes through which the juices flow out and are lost. Nearly all parts of an animal are good for food, the muscular flesh being the best.

5. Stewing is the most economical mode of cooking meats, as then all parts are tender and eatable.

6. Broiling and roasting are the most healthful; next, stewing or boiling.

7. Fried meats cannot be healthful, but are much used, because a very convenient way to cook, and it serves to make variety in the mode of serving meats.

8. All red meats should be cooked rare, and all white meats should be well done. Beef, to be good, must either be cooked very rare, or be thoroughly done.

9. The heart and livers of nearly all animals are very nutritious, but are hard to digest.

10. Tripe is both nutritious and digestible.

11. The tendons and gristly parts can be boiled to a jelly. They consist of a substance called gelatine. The shanks of beef and veal are much used for soups, for the sake of the jelly which they make, and which will keep for a week or more in a cool place.

12. **Salt Meats.** — Salting meats, as in the case of beef and mutton, is very wasteful. The salt extracts the juices, and the brine receives the most nutritious part of the meat. In the case of pork, it makes but little difference, as the fat is not injured by the salting.

MILK.

1. Milk is a naturally prepared food. It contains all the elements of which the body is composed. A

very large proportion of milk consists of water; the cream is largely fat. When milk becomes sour, the solid part separates from the whey, and is called curd. The curd is the albuminous part of the milk, while the cream is the carbonaceous part. The whey left after the curd is taken from the milk contains salt and other mineral matter necessary for digestion, and the earthy matter of which the teeth and bones are formed.

EGGS.

1. Eggs, like milk, contain all the material necessary for the growth of the body. They are composed of two distinct substances, — the yolk and the white. The white consists of water, albumen, and mineral ingredients. The yolk contains nearly a third of its weight in oil, a large quantity of albumen, a very large part of sulphur, and other mineral matters. The sulphur gives the yolk its yellow color, and it is this which causes the eggs to tarnish silver. Eggs are not easily digested by every person, but are very nutritious food for those who can eat them.

2. The most healthful modes of cooking eggs are boiling, poaching, and in omelets. The common mode of putting the eggs into boiling water and letting them boil rapidly for three or more minutes is not the best, as the heat hardens the albumen near the shell; and in this way, while the white of the egg becomes very hard, the yolk has not begun to cook.

3. The better way is to pour boiling water on the eggs, cover them closely, and let them stand where they will keep hot, but not boil, for ten minutes. Then they will be cooked through evenly, — the white and yolk alike.

4. When they are to be cooked hard, they should boil twenty minutes, which is necessary to make them mealy and digestible.

POACHED OR DROPPED EGGS.

5. When eggs are broken into a cup, and then turned gently into a pan of salted boiling water and cooked for about one minute, they are called dropped or poached eggs. They are healthful and inviting cooked in this manner and served on toasted bread.

6. Omelets are prepared by beating the eggs well, seasoning with salt, pepper, and a little milk, cooked in a very hot frypan. There must not be too much of the mixture poured in at once, and the pan should be moved quickly while the omelet is being cooked. This is a very healthful and convenient dish.

7. Eggs are used for custards, puddings, pies, and cakes. They make these dishes lighter and more nutritious. When eggs are beaten very rapidly, they quickly break up into cells filled with air. The white of the egg will retain more air than the yolk, and for this reason it is very useful in making cake, or any other kinds of food where lightness is desirable.

CHAPTER VII.

FISH.

1. FISH is a very healthy and digestible food, but not nearly so nutritious as meat. White fish are much more easily digested than dark, having so much less oil. Fish is very nitrogenous, for which reason a good deal of starchy food should be eaten with it. Potatoes are particularly suitable on this account to be eaten with fish. It is now thought that fish is a better brain food than meat, because it contains so much phosphates.

2. Oysters, clams, and mussels are made indigestible by much cooking. They are all improved by being kept in salted water and meal for a day or two.

3. Lobsters and crabs are not easily digested. Cayenne pepper should always be used in seasoning them, as that helps digestion.

4. Fish must always be thoroughly cooked, and if boiled it should be plunged into boiling water, well salted; then the kettle set back where it will simmer gently until done. Much of the nutritious part of the fish is lost in boiling. If the water is salted, it not only seasons the fish but hardens the water, and thus less of the nutritious qualities are lost.

5. Baking fish carefully renders it one of the most

savory dishes we have, and less of the nutritious qualities are lost.

6. In stewing, or making fish-chowder, all the nutrition is kept.

7. **Frying.** — Nearly all varieties of white fish are fried, which is a very convenient and savory method of cooking, but not nearly so healthful as either boiling, baking, or broiling. The fish should be wiped dry, seasoned with salt and pepper, and dipped into flour, meal, bread or cracker crumbs, and then dropped into boiling fat. There should always be enough fat to cover the fish, and the smoke should rise from the centre of it before the fish is put into it.

8. Salting fish, like salting meat, extracts the juices and hardens the fibres. Fat fish, like fat meats, are not injured to the same extent as white fish. There is a fish that is found in the great lakes named white fish, but all the light fish, such as cod, haddock, etc., are called white fish, because the oil is contained in the liver; while in blue-fish, mackerel, salmon, etc., the oil is found in all parts of the body.

LOBSTERS AND SALTED COD-FISH.

9. Lobsters should be plunged into boiling water while yet alive, and boiled until the shell turns red. They are eaten with a dressing and as a salad, without further cooking, and they are also cooked again in many different ways.

10. A great mistake is often made in cooking salt cod-fish. When it is soaked to extract the salt, it should be placed in a pan of cold water. The skin of the fish being up, the salt will fall on the skin if the

fish is placed with the skin under, and so the fish does not freshen. In the morning, the fish should be placed in the same position and covered with water, and then let come to a boil; cover tightly, set back where it will not boil, and cook for five or six hours. Fish cooked in this manner will be tender and juicy. Boiling hardens the fibres of the salt-fish just the same as it does meat. Salt-fish cooked in this way, and served with potatoes, beets, carrots, and salt fried pork or butter sauce, makes a very substantial dinner. What remains from dinner can be used for a great many dishes, such as hash and fish-balls. All cold fish left from one meal can be warmed up in some way to be a savory dish and used again.

CHAPTER VIII.

VEGETABLES.

1. A certain amount of fresh vegetables is necessary to perfect health. The most common and useful with us are the potato, squash, turnip, beet, cabbage, and onion, because they can be kept for many months after being gathered from the garden.

2. **The potato** is the most general in use. Three fourths of the weight of the potato consists of water; the greater part of what remains is starch, with a little fibrine, albumen, and small quantities of mineral and other matters. Being so largely composed of starch classes it among the carbonaceous foods.

3. **Turnips.** — Nine tenths of the weight of the turnip consists of water. It contains no starch, but has mineral, pectose, and other matters in small quantities. Some chemists think that it is a nutritious food, and others think that there is very little nutriment in it. Having so much pectose and no starch, it is a good vegetable to be eaten with potatoes.

4. **Squash.** — A large proportion of the squash is water, while starch, sugar, albumen, and mineral matters are found in it. As a food it is pleasant and healthful.

5. **Beets.** — The beet is also largely water; has

sugar, minerals, albumen, and three parts pectose. It belongs to carbonaceous foods.

6. **Cabbage** is now considered by some chemists to be one of the most nutritious vegetables. It is composed of about nine tenths water, and the remainder albumen, starch, sugar, gum, fat, mineral, and other matters. With potatoes, rice, or any starchy food, cabbage, or any kind of greens, is very valuable as food.

7. **Onions** are used for flavoring soups and stews, and by many persons they are eaten both raw and cooked. There is a great difference in strength of smell and flavor in the different kinds of onions, those grown in our northern climates being much stronger than those from a southern climate. The onion is used not only in cookery, but often in sickness. It contains no starch, and belongs to the nitrogenous or flesh-forming class of foods.

8. **Sweet Potatoes.** — The sweet potato belongs to the carbonaceous class of foods, as so large a part of it consists of starch and sugar. Seven tenths of its weight is water.

9. **Tomatoes.** — Nearly nine tenths of the tomato consists of water. The next largest substance is sugar. It contains no starch, but albumen, malic acid, cellulose, pectose, and mineral matters. It is four times more warmth-giving than flesh-forming.

10. All fresh green vegetables when well cooked are very healthful.

Pease and Beans. — When green, pease and beans are very nutritious and easily digested. When dried, they are still a very nutritious food, but are not so di-

gestible. When dried, they require a great deal of cooking. They are very nearly alike in composition: over one half is starch, one fourth casein; the remainder is water, mineral matters, etc. The casein resembles the curd in cheese, and belongs to the flesh-forming or nitrogenous foods, so that these vegetables by themselves form a more perfect food than any other of which we have spoken. If a small teaspoonful of mustard be added in the cooking of beans, there is less danger of their producing colic, as they often do when eaten by some persons.

Carrots and Parsnips. — Carrots and parsnips are somewhat alike in their composition. The parsnip contains albumen, sugar, starch, cellulose, lignose, pectose, dextrine, fat, and mineral matter. The carrot contains albumen, sugar, cellulose, lignose, gum, pectose, fat, and mineral matter. There is no starch in carrots, but more sugar, so that its heating power equals the parsnip.

SALADS.

1. Under salads are classed all green vegetables that are eaten uncooked. This term is now commonly applied to all vegetables, meats, and fish which are eaten with a dressing made of oil, vinegar, salt, etc. In this place we shall only speak of the vegetable. Those most used as salads are lettuce, celery, cress, sorrel, chicory, tomatoes, and cucumbers; also some kinds of cabbage.

2. Nearly all the food value that lettuce contains is in the water and mineral matter which it introduces into the body, but it is a very refreshing dish when eaten with rich food.

3. **Celery.** — Celery is much richer in nutrients. It is three times as great a heat-giver as flesh-former. It is used as a salad, as a seasoning for soups, and, when cooked, as a vegetable.

4. **Water-cress.** — This salad is grown in wet places and shallow-running streams. It has nearly the same food value that celery has. It is always eaten uncooked. Great care must be taken in washing and preparing these salads, as there are frequently little insects upon them.

5. **Cucumbers.** — Cucumbers have but little food value, and to some persons are very injurious. They are eaten when uncooked as salads, and are also cooked in various ways.

CHAPTER IX.

FRUITS.

FRESH fruits are very necessary to perfect health. They must be ripe and sound to be entirely healthful. Unripe and decaying fruit causes a great amount of sickness and death every year in our large cities, where it is sold at low prices on the streets. The most useful of the fruits, and very extensively grown, is the apple. It is not only good eaten fresh, but it can also be cooked in more ways than any other fruit.

Figs, dates, and bananas, either fresh or preserved, are very healthful, nutritious fruits.

CHAPTER X.

THE BREAD WE EAT.

1. The bread we eat is made from wheat, rye, Indian corn, and sometimes oats and rice.

2. Wheat is the principal grain used for bread. There are a great many kinds of wheat, more than one hundred and fifty!

3. The red wheat, from which macaroni and vermicelli are made, contains a greater amount of nitrogenous substances than the white wheat does. It is harder, and is not so floury.

4. Wheat is composed of nearly two thirds starch, about eleven parts albuminoids, water, mineral, and other matters. Whole wheat meal, on an average, contains one part flesh-formers to six and a half of heat-givers.

5. In different kinds of flour the amount of starch varies. There are now two processes of making flour: one is called the old process, or St. Louis flour, and the other the new, or Haxall flour. In the new there is more starch and less of the albuminoids, the flour makes a very handsome white bread, which keeps moist for a long time, from the fact that starch in baking is changed to gum. It is questionable if this is the best flour to build up the body.

6. Wheat and all cereal grains consist of three layers of bran-coats and the inside or heart of the grain. The outer coat of the grain has but little food value, and as it is very hard and irritating to the digestive organs it is better to have it removed from the wheat before grinding.

7. The greater part of the gluten, phosphates, etc., are in the bran-coats. The inside of the grain consists of cells filled with starch. When the wheat is ground by the old process, a great part of this bran is ground so fine that after being sifted many times some of the bran still remains. This makes the flour darker, but also much more healthful and nutritious. The less of the bran-coatings there is in flour the whiter it is.

8. Graham meal, or, as it is now commonly called, whole wheat meal, is the whole wheat ground rather fine and not sifted. But we do not always get the pure wheat meal. It is oftener a poor quality of flour with which common bran has been mixed.

A great difference of opinion exists concerning which is the more nutritious, flour or Graham; some scientific persons claiming that flour is robbed of its most healthful parts, while others claim Graham is not so nutritious as flour for hard-working people, because in its irritation of the digestive organs it causes the digesting fluids to flow more freely, and so hastens the food through the various channels too rapidly, not allowing time for proper digestion or absorption. Both of these theories are right in part, but to a hard-working person we would advise the use of flour as the most nutritious and economical of the two, because all of it is digested.

For persons of quiet habits, such as students and persons in offices or stores, the Graham would be better.

9. If you will take a little flour and wet it with cold water, enough to make a dough, and then place it on a sieve and pour a stream of cold water over it, working the dough all the time with one hand until the water that runs through the dough is no longer white, you will have remaining on the sieve the gluten of the flour; and after the water has stood a while, at the bottom of the pan there will be pure wheat starch, which you can get by pouring off the water very carefully. The water that you have poured off from the starch contains the sugar, gum, and mineral matter; these being dissolved in the water, they cannot be separated like the gluten and the starch.

By washing a little dough in cold water we have learned some very important things. That the gluten of the flour does not dissolve in cold water; that it is of a rather grayish color; that it is tough and elastic, something like India rubber. This tough, elastic property is very important in bread and pastry making.

10. When bread is made with yeast, the yeast uniting with the sugar of the flour produces carbonic acid gas. This gas tries to escape from the dough, but the tough gluten makes a wall which holds it back. The gas goes on forming in the dough, and soon there is a panful of light sponge where a few hours before there was about a third of a pan of solid dough.

Next, we learned that the starch of the flour does not dissolve in cold water; and if we pour off the

water and let it dry, we shall find it is composed of grains which, if rubbed between the hands, will give off a crackling sound, and be fine and powdery. If we could examine these grains with a glass, we should find that each grain is covered with an outer skin, that will not dissolve in cold water; but if we put the starch in boiling water these skins crack, and the insides are then dissolved and become gummy. We see from this how important it is that everything into which starch enters should be thoroughly cooked.

INDIAN CORN.

11. Indian corn is poorer than wheat as a flesh-former, but richer than rice. It contains more fat than any of the other grains except oats. It is used in this country in a great many forms as food. It is eaten, while green, from the cob, as a vegetable; the whole pearled grains as samp; the broken grains as hominy; and the ground grains as meal; and in a very fine powder it is sold as corn starch, but it is rarely used as a laundry starch. In any form it makes a healthful addition to our food, but it is particularly convenient and palatable in the form of hominy or meal. The hominy is ground from quite fine to very coarse. The meal, also, is ground coarse and fine. There are two processes for grinding meal. The old one gives a very sweet-flavored meal when it is first ground, but owing to the heating that it gets between the millstones and the moisture in the corn, it will grow musty very quickly. The product of the new process, called granulated meal, keeps perfectly well for years in all climates. The corn is first dried for

two years or more, and then ground by a process which gives coarse grains like granulated sugar. In using this kind of meal, more wetting must be used than with the old-process meal. In New England the yellow corn meal is the most used, but in the Southern and Middle States the white corn meal is much more used.

OATMEAL.

Oatmeal is richer in flesh-formers than wheat flour. It is used as a mush, eaten with milk, cream, butter, sugar, or syrup, the most common being sugar and milk. It is prepared for the market in different ways, one of the best being pearled oatmeal; that is, all the hard outer husks are taken off, and it is then crushed slightly. It is also ground very coarse, medium coarse, and very fine. For most persons, oatmeal is very healthful; but there are persons with very delicate stomachs who should not eat it unless it is very thoroughly pearled: the husks irritate the lining of the stomach. Oatmeal, as indeed all other meals, should be very thoroughly cooked.

Stir it into plenty of boiling water, and boil two hours. Bread is sometimes made of fine oatmeal, but not very often in this country.

RYE.

Rye meal and flour are more used in New England than in any other part of the country. It is used in the form of bread and mush. The flour is often made into raised bread; the meal is used in brown bread and muffins and third bread. Rye meal is a health-

ful addition to the bread materials by giving variety and coarseness to our breads.

RICE.

Rice is sometimes used in the form of flour in bread and cake making, and sometimes the whole rice is first boiled and then added to flour or meal in making bread. But the most common mode is to use it as a vegetable, or in puddings.

Rice contains a great deal of starch, a small quantity of fibrine, no fat, a very little mineral and other matter. It is not by itself a nutritious substance, but when used with milk and eggs is good and healthful food. Also, when used as a vegetable with meats it takes the place of potatoes.

PEARLED BARLEY.

Barley is mostly used in soups ; but it is sometimes ground into flour and used with wheat flour for bread making. It is not as nutritious as wheat, but in soups it is a very delicious thickening. It requires a great deal of boiling, — never should be boiled less than two hours.

BUCKWHEAT.

Buckwheat is richer in nitrogenous substances and has less starch than wheat, so that it is a greater flesh-former than wheat. The common mode of using it in this country is in the form of griddle-cakes. The amount of starch and fat contained in the buckwheat renders it very heating. It causes a slight eruption on the face of many persons after they have been eating it a few weeks.

BREAD MAKING.

Americans have more kinds of bread than any other nation, but they do not always have better, and generally not as good, bread as is found in other countries. As bread is one of the articles which we eat at every meal, it is one of the most important in the whole list of foods, and should be studied as carefully as possible.

Good bread, to be healthful, must be light, porous, and perfectly sweet. There are a great many ways of making bread.

1st. By mixing with yeast.

2d. By using leaven.

3d. By salt-risings or milk yeast.

4th. By mixing the flour with water which is highly charged with carbonic acid. This is called aerated bread.

5th. By baking powders, or soda and cream of tartar.

6th. With cold water, and a great deal of beating.

Yeast bread is by far the most healthful and economical of all the modes of making bread. There are a great many rules for making yeast bread, but the first principles are always the same. These are one quart of flour, a little more than one fourth of a quart of water, one fourth of a cup of liquid yeast or one fourth of a cake of compressed yeast, one fourth of a table-spoonful of salt, one fourth of a table-spoonful of sugar. The water should always be blood-warm, and the dough thoroughly kneaded to distribute the yeast evenly through it, and also to render the grain of the bread fine and uniform. Milk is often

used instead of water, and generally a little butter or lard is added to the dough to make the bread more tender. Bread with these ingredients must of course be more nutritious than that made with water; but there is no bread that has the delicious sweet taste of the wheat, and that will keep as long, as yeast bread made with water. As the bread depends so much upon the yeast, great care must be taken that it is quite sweet and fresh. The compressed yeast made by Gaff, Fleischmann & Co., when fresh, will always make good bread. This firm have done a vast amount of good in this country by the introduction of their yeast and the examples they give us of what good bread is. If all our bakeries could copy their bread, there would be a great change in the comfort and healthfulness to bread-buyers. When the dough is mixed, the water softens the gluten, and causes all the particles of flour to be cemented together. The yeast causes fermentation, changing the sugar of the flour and the sugar added to the flour into carbonic acid and alcohol: it also changes part of the starch into sugar. Carbonic acid gas being very light, it seeks to escape and mix with the air, but here it cannot do so because of the gluten.

HOW BREAD CHANGES IN THE BAKING.

The bread in baking loses about one sixth of its weight, but the loaf grows larger while baking, because the heat expands the carbonic acid, turns the water into steam and the alcohol into vapor. These escape through the pores of the bread, so that after baking and cooling neither carbonic acid nor alcohol is left in

the bread. Baking also changes a great part of the starch into gum. Some of the starch belonging to the wheat does not change, except that the cells are broken and the starch dissolved so that it is digestible. The gluten becomes tender, and unites with the starch paste.

LEAVEN.

Leaven is a paste made with flour and water and allowed to sour. Sometimes housekeepers and bakers keep a piece of the risen dough for the next bread mixing, and they call this leaven. In many of the bakeries of Paris they do this, and use a little dry yeast with it in making common bread, but it always gives to the bread a slightly sour taste.

SALT-RISING BREAD.

In salt-rising a batter is made with flour, salt, milk, and water a little more than blood-warm. The basin in which the batter is must be covered and placed in another basin of blood-warm water, and kept in a warm place near the fire, where it will keep at that temperature until it becomes a perfect sponge; more flour is then added to it, and all is well kneaded and put in the baking-pans, and allowed to rise again till ready to bake. Bread made by this process is very sweet and delicate, but one tires of it very quickly.

AERATED BREAD

Aerated bread is made by mixing the flour with water into which carbonic acid has been forced under high pressure. As soon as the pressure is removed the bread begins to rise, and is baked immediately.

BAKING POWDERS.

Soda and cream of tartar and baking powders are used to make unfermented bread. Baking powders are a composition of an acid and an alkali. The acid takes the place of cream of tartar, and the alkali of soda; in fact, it is nearly always bicarbonate of soda. Baking powders, when pure, are the most convenient and safest mode of using chemicals where the cook is without a perfect knowledge of the relations between soda and cream of tartar; because, to be perfectly harmless, they must each neutralize the other. It takes three fourths of cream of tartar to neutralize one fourth soda, if both articles are pure. It is a great mistake to mix the cream of tartar with the flour and then dissolve the soda with water, because you then must use a little more soda than would be necessary if you mixed the dry flour, soda, and cream of tartar together.

Bread made with cold water is usually in the form of gems. The water must be very cold, the oven very hot, and the gem-pans hot. The water and salt are added to the Graham or wheat flour, and the batter is beaten very rapidly and thoroughly. This is to mix air with the batter. The mixture is then dropped by the spoonful into the pans, and they are immediately put into the oven and baked. In another chapter we shall have more exact rules for bread making.

CHAPTER XI.

THE CONDIMENTS, SPICES, AND FLAVORS WE USE.

CONDIMENTS.

Of the condiments we use, salt and pepper and mustard are the most important.

Salt, taken with foods, undergoes certain changes in the body. Its chlorine helps to supply the hydrochloric acid of the gastric juice. Sodium forms part of the soda salts, which are the elements of the bile. Salt is very necessary to the health of both human beings and the higher animals. Only one race of people is known that does not use salt in food. A traveler found a tribe of people in Central Africa that did not use salt, and they did not seem to suffer from the loss of it. Civilized people, if deprived of salt for any length of time, become sick. Salt is used in nearly every dish that is cooked, and also in preserving meats and fish. Salt should be fine, dry, and white, and without a bitter taste. In boiling vegetables in soft water, when salt is added it slightly hardens the water, and so preserves the color and juices of the vegetables, besides giving them a better flavor.

Pepper. — There are three kinds of pepper, —

black, white, and red. The black pepper is found in the market both whole and ground. The whole pepper is called pepper-corn. These pepper-corns are ground, and we then have black pepper.

White pepper is made from these black pepper-corns, also, but the outer shells, or covering, are first removed before grinding. This gives it a different flavor and much lighter appearance than the black.

Cayenne, a red pepper, consists of pods, or seed vessels, of different species of capsicum, ground to a powder. Though not so much used in cookery as black pepper, it is far more healthful, the red being stimulating, while the black is irritating. Cayenne is often used as a medicine: taken as a hot drink for colic or colds, used as a gargle with vinegar for sore throats, and sometimes with hot vinegar to bind on the throat when sore.

Mustard. — Mustard is used as a condiment and often as a medicine, great quantities being used in malarial countries for pastes and mustard baths. It is made from the seeds of both black and white mustard, which are first crushed between rollers, and then pounded in mortars. When used with food the powder is simply mixed with water; thus it is taken with cold meats. It is also employed to season some dishes while they are being cooked. When taken in small quantities it is good for digestion, but if in large quantities it proves very injurious, as it irritates the lining of the stomach.

Among other condiments which we use are mint, thyme, parsley, sage, sweet marjoram, and summer savory. The leaves of these are used either green or

dried for soups, sauces, and meats. When used carefully they add to the healthfulness of the food by making it more palatable.

SPICE.

Spices are usually added to articles of food containing sugar, and sometimes to meats and soups. The most common of these are ginger, nutmeg, cinnamon, clove, mace, and allspice. We get all these spices in the market for cooking purposes in three forms, whole spice, ground spice, and extracts. The ground spice is the most convenient and common mode of using them. A very little spice in an article of food will give it a pleasant taste. Where there is much used it hides the natural flavors of the food and spoils the appetite for simple food, beside causing irritation in the stomach. The habit which school-girls have of eating cloves and cinnamon is a very injurious one, and often lays the foundation for ill health in after years, if it does not have immediate bad effects.

Ginger is the most healthful of all the spices, and is much used in sickness, the same as mustard is. The spices are frequently mixed together in seasoning cake, pies, soups, and meats. The great art, then, is to be able to season so that one spice may not be tasted more than another. It will be easy to mix them with the following table, — beginning with the strongest and ending with the mildest. Ginger is seldom used in this mixture: 1. Cloves; 2. Mace; 3. Nutmegs; 4. Allspice; 5. Cinnamon. If we begin with cloves, we increase the quantity of each spice, until reaching cinnamon, we shall take four times as much as of the

cloves. This is not the place to speak of the herbs, but this is true of them also. Sage is the strongest, and you should not use more than half as much of it as of the other herbs. Both in spices and herbs a mixture of all kinds is very much nicer than a large quantity of only one.

FLAVORS.

In the market we have the extracts of nearly every kind of fruit for flavoring in cookery. Sometimes the extracts are not taken from the fruit at all, but are artificial essences. The most common, and the ones that we are surer are taken from the fruit, nuts, or berries from which they are named, are lemon, orange, vanilla, and bitter almond. Lemon and vanilla are more used than any other of the flavors. It is always cheapest, safest, and best to buy in large bottles, and that made by manufacturers who have a reputation to maintain. Very small quantities of the pure extracts are healthful, because they make the food more palatable; but there is nothing used in cookery where more care is necessary that there should not be too much used. An article while hot should never be seasoned with an extract if it is possible to add it after it cools, as the heat wastes the strength of the flavor, and more must of course be used. Where an article is to be frozen, three times as much flavoring and sweetening also must be used as when it is to be eaten cold. The usual rule is a teaspoonful of lemon or vanilla to a quart of custard, blanc-mange, pudding, etc. For sauces twice as much is needed. Bitter almond and pine-apple are both very

strong, and when too much of either is used the result is unhealthful and unpleasant. One fifth of a teaspoonful gives a delicate flavor.

The fruits and the vanilla bean are used instead of the extracts. Where the fresh fruit can be had it is much better to use.

A RULE FOR USING CONDIMENTS, SPICES, AND FLAVORINGS.

Use only enough to give the food a delicate flavor.

CHAPTER XII.

TEA, COFFEE, CHOCOLATE, ETC.

TEA.

THERE are three varieties of the tea-plant; both black and green tea can be prepared from them all. Green tea is made from leaves which are dried quickly. Black tea is made from leaves which have first been allowed to stand twelve hours or more before roasting. The leaves wilt and grow moist in that time, and that is what gives the dark and peculiar appearance to this tea. In making tea the pot should be earthen, rinsed with boiling water, and left to stand for a few moments on the stove to dry; then put in the tea-leaves, and let it stand a few minutes longer, and pour on the boiling water, leaving the tea-pot standing where it will be at the boiling point, but not boil, for from three to five minutes. For moderate strength use one teaspoonful of tea to half a pint of water. If the water is soft it should be used as soon as it boils, for boiling causes all the gases which flavor the water to escape. But if the water is hard it is best to boil it from twenty to thirty minutes. The gases escape from hard water also, but boiling causes the mineral matter, which hardens the water, to settle on the bottom of the kettle, and the water becomes softer.

COFFEE.

There are a variety of coffees, but unlike the teas they do not owe their difference of flavor or color to the curing, but to the soil and climate in which they grow. Coffee grows on small trees. The fruit is something like the cherry, but there are two seeds in the fruit. The beans are separated by being bruised with a heavy roller; they are then washed and dried. The longer the raw berry is kept the riper and better flavored it becomes. In countries where coffee is grown, the leaves of the tree are used as much as the berry for making coffee. Like tea, coffee must be roasted that the fine flavor shall be developed. There are large establishments now for roasting and grinding coffee. The work is done by machinery, and nearly always the grains are evenly roasted, and just enough to give the right flavor. If the coffee after roasting is placed in close tin cans, it will retain its best qualities for a long time. It can be ground when needed for use. Many persons think that heating the dry coffee just before making improves the flavor. There are many modes of making coffee, each one having its advantages and disadvantages.

Boiled Coffee. — The old method of boiling coffee is still practiced by at least one half the housekeepers in this country. It is sometimes boiled with an egg, which makes it perfectly clear, and also enriches it. When an egg is not used, a small piece of salt-fish skin is boiled with the coffee, to clear it.

Rule for Boiled Coffee. — One small cup of roasted and ground coffee, one third being Mocha,

the other two thirds Java, one small egg-shell, and all broken into the pot with the dry coffee; stir well with a spoon, and then pour on three pints of boiling water. Let it boil from five to ten minutes, beginning to count from the time when it begins to boil. As soon as it has boiled enough pour in one cup of cold water, and turn a little of the coffee into the cup to see that the nozzle of the pot is not filled with coffee grounds; turn this back again, and let stand a few moments to settle. Be sure that it does not boil again. Advantages of the boiled coffee: When the egg is used the yolk gives a very rich flavor, and when the milk or cream is added the coffee has a rich yellow look, which is very pleasing. It also has a peculiar flavor, which many persons prefer to the flavor given by any other process. Disadvantages: The egg coats over the dry coffee, and when the hot water is added the coating becomes hard, and a great deal of the best of the coffee remains in the grounds after the boiling. Also, in boiling much of the fine flavor is lost in the steam that escapes from the pot.

FILTERED COFFEE.

Another, and really the most economical and easiest, way of making coffee is by filtering. The French coffee biggin is very nice for this. It consists of two cylindrical tin vessels, one fitting into the other: the bottom of the upper one is a fine strainer; another coarser strainer, with a rod running from the centre, is placed upon this; then the coffee, which must be very finely ground, is put in, and then another strainer is placed at the top of the rod. The boiling water is

now poured on, and the pot set where it will keep hot, but not boil, until the water has gone through. This will make a clear, strong coffee, with a rich, smooth flavor. The advantage of the two extra strainers is that the one coming next to the fine strainer prevents the coffee from filling up its fine holes, and so the coffee is clear, and made with more ease. The upper strainer causes the boiling water to fall on the coffee in a shower, like rain. In this way it is more evenly distributed, and the fine coffee is not carried through the fine strainer, as it would be if the water were poured directly on the dry coffee. When milk or cream is added to this, it does not turn a rich yellow, as in the case of that boiled with an egg. A few spoonfuls of this coffee, without sugar or milk, aken after dinner, is said to help digestion.

STEAMED COFFEE.

Another mode of preparing coffee is steaming it. The coffee is put into the pot, and the boiling water poured on it. This pot, which is made to fit into a tea-kettle, is then placed in the kettle, and let cook from ten to twenty minutes, the water in the kettle boiling all the time. This will make a clear, delicious coffee. Some persons think that by first wetting the coffee with cold water and letting it come to a boil, and then adding the boiling water, more of the strength of the coffee is extracted. When there is not cream for coffee, the milk should be boiled, as it makes it much richer. As soon as the milk boils up it should be taken off the stove, since it grows strong and oily by much boiling. To many persons it is in-

jurious to drink coffee. Physicians say that if coffee is drunk without milk it is perfectly harmless. Some element in the coffee combines with the milk to form a leathery coating on the stomach, which impairs digestion. A great many substances are mixed with coffee to cheapen it, — chicory, beans, pease, rye, wheat, being the most common; but there are also a number of other things with which coffee is adulterated. To obtain it pure, the safest way is to buy it unground, unless you purchase from a strictly honorable firm. Persons drinking coffee, as a general rule, eat less, though coffee, and also tea, have little direct food value; but they retard the waste of the tissues, and so take the place of food. The sugar and milk used with them give some nutriment.

COCOA.

Cocoa is very rich in nutritious element. Like milk, it has all the substances necessary for the growth and sustenance of the body. It is the fruit of a small tree which grows in Mexico, Central America, the West Indies, and other islands. The fruit is in shape like a large, thick cucumber, and contains from six to thirty beans. There are a number of forms in which it is sold in the market, the most convenient and nutritious being chocolate; next comes cocoa; then cocoa nibs; and last cocoa shells. The beans of the cocoa are roasted in the same manner as coffee, the husks or shells taken off, and it is then ground between hot rollers. Sometimes the husks are not taken off at all, but ground up with the bean. The ground bean is called cocoa, and mixed with

sugar, after being ground very fine, is termed chocolate. Vanilla is often added as flavoring. Sometimes the cocoa is mixed with starch. When the bean is broken into small pieces, these are called nibs.

To Make Cocoa. — Put a gill of the broken cocoa in a pot with two quarts of water, and boil gently three hours. There should be a quart of liquid in the pot when it is done; if the pot has boiled so rapidly that there is not this much, add more water, and let it boil once more. This same cocoa will do to be boiled again. Many prefer half broken cocoa and half shells. If the stomach is delicate, it is better than all cocoa. Sugar and milk are used with it, the same as with tea and coffee.

Shells. — Use twice as many shells as broken cocoa, and boil twice as long.

CHOCOLATE.

Scrape one ounce (one of the small squares) of Baker's, or any plain chocolate, fine; add to this two table-spoonfuls of sugar, and put into a small sauce-pan with one table-spoonful of hot water; stir over a hot fire for a minute or two, until it is perfectly smooth and glossy; then stir it all into a quart of boiling milk, or half milk and half water; mix thoroughly, and serve immediately. If the chocolate is desired richer, take twice as much chocolate, sugar, and water. Made in this way, chocolate is perfectly smooth and free from oily particles. If it is allowed to boil after the chocolate is added to the milk, it becomes oily and loses its fine flavor.

COOKERY.

FIRST LESSON.

BREAD AND YEAST.

Material for the Lesson. — Flour, seven and a half quarts; yeast, one and a half cups; sugar, one small tea-cup; salt, five table-spoonfuls; milk, one pint; Graham, one heaping pint; hops, one heaping table-spoonful; lard, two heaping table-spoonfuls; six large potatoes; time, about three hours.

HOP YEAST.

Material. — Six potatoes; one fourth cup of sugar; three table-spoonfuls of salt; one heaping table-spoonful of hops; half pint of flour; half cup of yeast. Pare the potatoes, and put them in a saucepan with *boiling* water enough to cover them. Let them boil thirty minutes. As soon as you put the potatoes on to boil, put the hops into another saucepan with three pints of cold water; cover the saucepan, and let the hops boil gently until the potatoes are done. Mix the salt, sugar, and sifted flour together. When the potatoes

are cooked pour off the water; mash them very light and smooth; then strain the hop water through a fine sieve on the potatoes; stir well, and add the mixture of flour, salt, and sugar; mix all very thoroughly, and strain the mixture through a colander into a stone jar. When it is blood-warm add the yeast; cover tight, and set it to rise where it will be warm. It will rise in five hours. When risen, it will have a thick white froth on top. Now put into a stone jug or into bottles; cork tight, and set on the cellar bottom or in the ice-chest, or, if you have neither, in the coolest place you have. Remember that great heat, like pouring boiling water on it, will kill the plant in the yeast, and also that freezing will do the same thing. The bottles or jug in which the yeast is kept must be washed out first with cold water, and then with soap and water; and after that boiling water must be poured in, and let stand in it for at least half an hour. Yeast often becomes sour from the jug not being properly cleaned before being filled. The cork, too, must have the same care. In hot weather, the yeast should be made once a week. Plan to make enough for the bread, and to have enough to rise the new yeast. In very warm countries the dried yeast is the most used, and it is very convenient for rising liquid yeast in country places where the liquid yeast is not good. It is made by stirring into the fresh yeast Indian meal enough to make it so thick that it can be rolled out into sheets. It is then cut into little squares, placed on boards, and dried in the sun. It takes about three days to dry it.

YEAST BREAD.

Material for Four Loaves of Bread. — Flour, two quarts; salt, half table-spoonful; sugar, half table-spoonful; lard, half table-spoonful; yeast, half cup; water, nearly three fourths of a quart. Sift the flour into the bread pan; take out a cupful of it to use in kneading the bread; then add salt, sugar, yeast, and the water, which must be blood-warm (about one hundred degrees, if in cold weather, and about eighty degrees in hot weather). Beat well with a strong spoon. When well mixed sprinkle a little flour on the board, turn the dough out on this, and knead from twenty to thirty minutes, and put back in the pan. Hold the lard in the hand long enough to be perfectly soft; rub it over the dough; cover close, that neither air nor dust may get in, and set where it is warm. It will rise in eight or nine hours. In the morning shape into loaves or rolls. If loaves, let them rise one hour, where the temperature is between ninety and one hundred; if rolls, let them rise one hour and a half. Bake in an oven that will brown a teaspoonful of flour in one minute. (The flour used for a test should be put on an old piece of crockery, as it will then have a more even heat.) The loaves will take from forty-five to sixty minutes to bake, and the rolls will bake in thirty if placed close together in the pan; but if French rolls are made, they will bake in fifteen minutes. As soon as baked, the bread should be taken out of the pans, placed on the table, where they can rest against something until they are cool; they should then be put in a stone pot or tin box which

has been thoroughly washed, scalded, and dried, and set away in a cool, dry place.

HINTS ON BREAD MAKING.

Kneading. — When you put the bread on the board, mix it lightly. Do not *press down*, but let all your motions be as elastic as possible. Knead with the *palm* of the hand until the dough is a flat cake, and then fold; keep doing this until the dough is light and smooth and will not stick to the board or the hands. Use as little flour as possible in kneading. Do not stop kneading until you have finished. Bread that is "rested" is never so good. Milk can be used instead of water in mixing the bread. It should always be scalded first, and then let cool to blood-heat. One table-spoonful of lard or butter makes the bread a little more tender when water is used.

In cold weather, some kitchens grow cold very quickly after the fire goes out. In that case, the bread should be made earlier in the evening and set in a warmer place (about eighty or ninety degrees); because if it begins to rise well the first two hours, it will continue to rise, unless the temperature of the room falls to the freezing-point. The reason for letting the rolls rise longer than the loaves is that the rolls being smaller, heat penetrates them much more quickly than it does the loaf, and of course fermentation is stopped sooner; therefore the small rolls do not rise so much in the oven as the large loaves. The best sized pan for loaves is made of block tin, eight and a half inches long, four and a half wide, and three deep. Rolls should be made into smooth little balls,

and should be placed in even rows in a shallow pan. Breakfast rolls are first made into the little balls, and then rolled between the two hands to make long rolls of about three inches; these are placed close together in even rows in the pan. Dinner or French rolls are first made into little balls, and put on a well-floured board; a little rolling-pin, two and a half inches in circumference, is then well floured and pressed nearly through the centre of the little balls of dough; they are then placed in the pans, but should not touch each other. Being so small and baking so quickly, they have a very sweet taste of the wheat.

The Pans. — The pans for wheat bread should be greased very lightly, either with butter or lard; for rye, Indian, or Graham, they must be greased thoroughly, as the dough clings to the pans more. There are a great many kinds of bread which you can make readily and safely after having learned to make simple, good bread. It is difficult to give exact rules for flour, as it varies so, some flours requiring much more water than others. The new process flour, having so much more starch and packing so much closer than the old process, requires one eighth less flour, or one eighth more liquid; but if it is weighed, it takes the same amount of water for a pound of either process flour. The best flour is always the cheapest for bread making.

There is no one article of food of so great importance, as to the health, comfort, and happiness of the family, as bread. Make it perfect.

GRAHAM BREAD.

Material for Two Loaves, or Twenty-four Muffins. — Water or milk one pint, flour one pint, Graham one *large* pint, sugar half a cup, yeast half a cup, salt one teaspoonful. Have the milk or water blood-warm; add the yeast to it. Have the flour sifted in a deep dish; add yeast and milk gradually to the flour, beating until perfectly smooth; set in a rather cool place (about sixty degrees) to rise over night. In the morning add the salt, sugar, and then the Graham, a little at a time, beating vigorously all the while. When thoroughly beaten, turn into two bread pans, and let it rise an hour, in a temperature between ninety and a hundred. Bake one hour.

Muffins. — Graham muffins are made the same as the bread. Fill tin muffin pans two thirds full, and let them rise to the top of the cups; then bake in a rather quick oven twenty minutes. They will rise in one hour.

To the Teacher. — For this lesson the bread should have been put to rise the night before, also the sponge for the Graham. The first thing in the morning, when the pupils meet, is to shape the risen bread into loaves and rolls, and then put them where they shall be rising; then to add the remainder of the ingredients to the sponge for the Graham, and put that in the pans and muffin cups, making one loaf and twelve muffins. Then have potatoes prepared and put on to boil for the yeast, then the hops, and while they are cooking two batches of bread can be started: one by the teacher, to show how it is done, letting

each pupil practice kneading on this batch; then one of the pupils should begin a new batch, the remainder of the class directing her. This dough will answer for an afternoon class, if put where the temperature is between ninety and a hundred; or for a class the next morning, if it stands in the kitchen for an hour, and is then set in a cold room, where it will rise very slowly. The yeast can now be made, and while it is cooling the baking and cleaning up may be done, additional notes given, and dresses changed, so that there shall be no delay, but as soon as the bread is baked the class may be dismissed. The yeast will have cooled meantime, and the half cup of yeast will be added. The pupils knowing all about the temperature and the time, they cannot fail to understand this important element of bread making. The bread lesson is the hardest of all the cooking lessons, on account of the rising; but if these simple directions are followed the foundation will be laid for good bread making all through the after life of the pupil, and nothing should stand in the way of the perfect mastering of this lesson.

When more or all Graham is desired in the bread, the sponge can be made with the Graham, using, however, only half as much yeast: as there is so much more gluten in the whole wheat, it ferments more rapidly than the fine white flour. Demand of each pupil that she make bread and yeast at home, and report to you.

SECOND LESSON.

Material for Lesson. — Two pounds of beef for stew, six pounds of beef for roasting, one pound of beef for broiling, eight potatoes, two slices of carrot, two of turnip, one onion, one and one fourth quarts of flour, one and three fourths quarts of milk, one pint of Graham, five eggs, one large cup of sugar, one table-spoonful of butter or lard, one and one half teaspoons of soda, three teaspoons of cream of tartar or four and a half of baking powder, salt, pepper, flavoring, one pint of stale bread.

BEEF STEW.

Two pounds of beef (the round, flank, or any cheap part; if there is bone in it, two and one half pounds will be required), one onion, two slices of carrot, two of turnip, two potatoes, three table-spoonfuls of flour, salt, pepper, one generous quart of water.

Cut all the fat from the meat, and put in a stewpan and fry gently for ten or fifteen minutes. While the fat is frying cut the meat in small pieces, and season well with salt and pepper, and then sprinkle on two table-spoons of flour. Cut the vegetables into very small pieces, and put them in the pot with the fat; fry them for five minutes, stirring all the time to prevent burning. Now put in the meat, and move it about in

the pot until it begins to brown; then add the quart of boiling water. Cover over, let it boil up once, skim, and set back where it will just bubble for two and a half hours; then add the potatoes cut into slices, and one table-spoonful of flour, which mix smooth with half a cup of cold water, pouring about one third of the water on the flour at first, and when perfectly smooth adding the remainder. Taste now to see if the stew is seasoned enough, and if not add more salt and pepper. Let the stew come to a boil again, and cook ten minutes; then add the dumplings. Cover tight, and boil rapidly ten minutes longer.

Mutton, lamb, or veal can be cooked in this same manner. When veal is used, fry out two slices of pork, as there will not be much fat on the meat. Lamb and mutton must have some of the fat put one side; as there is so much on these kinds of meat they are very gross.

DUMPLINGS.

One pint of flour measured before sifting, one half teaspoonful of soda, one of cream of tartar, one half of salt, one of sugar. Put all into a sieve, mix thoroughly, and run through the sieve; then wet with a small cup of milk; sprinkle a little flour on the board, turn the dough (which should have been stirred into a smooth ball with a spoon) on it, roll about half an inch thick, cut into small cakes, and cook ten minutes, as directed. Things to be carefully noted: That the dumplings boil just *ten* minutes; that they do not sink too deep in the soup; that the soup is boiling rapidly when they are put in; that the cover fits tight on the pot, so that the steam shall not escape; and that the

pot boils all the time, so that the steam shall be kept up. These few directions carefully followed will insure success every time.

ROAST MEAT.

Put the meat rack into the baking pan; wipe the meat with a wet towel; lay it on the rack; then sprinkle well (on all sides) with salt, pepper, and flour, letting the bottom of the pan get well covered with the flour and seasonings. Now put into a very hot oven for a few minutes, and when the flour begins to become a dark brown turn in hot water enough to cover the bottom of the pan; close the oven door, and let the meat get well browned, but not scorched, on one side; then baste with the gravy from the pan, dredge with flour and brown again. Now turn the meat over, baste with gravy, dredge with salt, pepper, and flour, and brown on this side. A piece of beef weighing six pounds will require forty minutes if it is desired rare, twenty minutes longer if well done. Mutton the same time. Lamb one hour and ten minutes. Veal two and a half hours. Pork three hours. Put the meat on a large hot dish; take the rack from the pan; skim all the fat from the gravy; add half a cup of boiling water, if there is about that amount in the pan; mix one teaspoonful of flour with cold water enough to make a thin paste; stir this into the boiling gravy; season with salt and pepper, if you like it; strain and serve. Remember that you must keep adding water to the pan all the time the meat is roasting, as the bottom of the pan should be covered all the time; and yet if there is too much water in the pan at once it

steams the meat. *Never* roast meat without having a rack in the pan, because if the meat is put into the water it becomes soggy, and has no good flavor. Putting salt on fresh meat draws out the juices, and it would not be well to use it if the flour were not used also; but the flour makes a paste which keeps all the juices in the meat, and also help enrich and brown it; so that by using both salt and flour we get a rich, well-seasoned piece of meat, which we could not by either alone. A very poor piece of meat may be greatly improved by constant basting. Beef requires that it shall be cooked either a very little or a great deal to be good. Between the two extremes it is always hard and indigestible, — unless, of course, the pieces are choice, like the tenderloin and sirloin. The choicest and most expensive parts of the beef are the tenderloin, the sirloin, the five ribs called the fore rib from the fore quarter, and the middle ribs. All the cheap parts of the beef are good for stews and soups, and this is the most economical mode of cooking all meats, as in this way nothing is lost. Two pounds of meat will make a good dinner for a family of six or eight when made into a stew, the same piece of meat not being enough for four if fried or roasted; besides if the meat is tough it is so much more easily digested when stewed. The cheapest parts of the beef are the neck, the flank, the shin, the heart, and the liver. Good ox beef has a fine grain, yellowish-white fat, and a bright red color. Cow beef has white fat, and the color is a paler red than the ox beef. It is not rich and juicy like ox beef. Mutton and lamb should have the fat white and the meat firm. The meat should be

dark. Veal should be firm to the touch, and at least three months old before being killed. The fore quarter of the three last-mentioned meats is always the cheapest. Steaks are cut from the sirloin, the tenderloin, the rump, and the round. The most economical is the round steak, and when the beef is large and tender, and the steak cut from the top of the round, it is a very delicious piece of meat.

BROILING.

For broiling the fire must be clear; coals from a hard-wood fire or charcoal are best, but the most common fires for broiling are the hard coal. Beefsteak should be cut three fourths of an inch thick, sprinkled with salt, pepper, and flour, put in toaster, and placed over the fire; as soon as it begins to brown on one side, which should be in two minutes, turn and brown on the other side; keep turning every few minutes until done, which should be in ten minutes if the steak is to be rare, but fifteen if well done. Now place on a warm dish, butter, and send to the table instantly. Chops are broiled in the same way, omitting the flour. Never use a fork to turn chops or steak, as much of the juices of the meat is lost that way. When there are no coals over which a steak or chop can be broiled, heat the frypan very hot, and put into it about a teaspoonful of butter to prevent the steak from sticking; then put in the steak, and cook about the same time as if broiling over the coals. Fish is broiled in the same way, only that the broiler must have a little pork or butter rubbed over it before the fish is put on. It must, however, broil more slowly than beefsteak or

chops, and therefore longer. Halibut is very much improved by standing an hour in melted butter or olive oil before being broiled. All fish that is split must have the inside put to the fire first, and when that begins to look a handsome brown the side on which the skin is should be turned to the fire. Care must be taken that the skin does not scorch, as it does so very readily.

BOILED POTATOES.

Pare the potatoes, and let them stand in cold water an hour or two; then put them on in a kettle, which has a close cover, with boiling water enough to cover them. Let them boil fifteen minutes; then for every twelve potatoes add one table-spoonful of salt, and boil fifteen minutes longer. Now pour off all the water; set the kettle on the back part of the stove, with a clean towel over the potatoes, for three minutes, that they may dry and yet have the steam pass off. Shake them up and turn into a hot dish, and send to the table immediately. It takes them half an hour to boil, five minutes to dry and be served; so that you want to put them on just thirty-five minutes before time for sitting down to the table. No vegetable requires more care in boiling than the potato, and yet none gets less. Remember, the water must be *boiling* when the potatoes go into it, and must boil all the time they are on the fire; that the water must be poured off as soon as they are done; and that they must be served as soon as dry.

GRAHAM MUFFINS.

Materials. — One pint Graham, one pint flour, one pint milk, one half cup of sugar, one teaspoon of salt, one of soda, two of cream of tartar, two eggs.

Put Graham in the mixing bowl. Put flour, sugar, salt, soda, and cream of tartar in the sieve; mix all thoroughly; then pass through sieve into the Graham; mix all well with the hands. Beat the eggs very light in another bowl; add the milk to them; now pour this on the dry ingredients, and beat up well. Have the muffin pans well greased, and put a large table-spoonful of the batter into each cup; bake twenty minutes in a quick oven. This will make twenty-four. Rye and Indian are made in the same manner.

BREAD PUDDING.

Materials. — One pint of stale bread, one quart of sweet milk, one teaspoon of salt, three table-spoons of sugar, two eggs.

Soak bread and milk together for two hours; then mash all up fine with the back of the spoon; beat eggs, sugar, and salt together, and add to the bread and milk; turn into the pudding dish, and bake in a slow oven for forty-five minutes. Run a knife or the handle of a spoon down the centre of the pudding, and if it does not look milky it is done. Serve with cream sauce.

CREAM SAUCE.

One egg, half a cup of powdered sugar, three table-spoonfuls of milk, half a teaspoonful of vanilla or lemon extract.

Beat the white of the egg to a stiff froth; then beat in the sugar, then the yolk of the egg and the flavoring, and last, the milk. Serve immediately, as it spoils by standing.

THIRD LESSON.

Materials for Lesson. — One quart can of tomatoes, four or five pounds of fish, three potatoes, one turnip, one carrot, three onions, one clove, quarter of a pound of pork, two and half quarts of milk, one cup of molasses, three large crackers, two stalks of celery, one egg, six pounds of beef, one pound of liver, four table-spoonfuls of butter, pepper, salt, half a table-spoonful of parsley, three table-spoonfuls of Indian meal.

POT-AU-FEU.

Six pounds of beef, half a pound of liver, one large carrot, one large turnip, one and a half table-spoonfuls of salt, one clove, two onions, one stalk of celery, five quarts of water. Let the beef be any of the cheap pieces. Wipe clean, and put into the soup kettle with four quarts of cold water. Let it come to a boil very slowly, and skim; then add the salt and liver, and set where it will simmer for two hours, every half hour adding one cup of cold water, and as soon as the soup comes to the boiling point skim carefully. After two hours add the clove and vegetables, and simmer two hours longer. Skim off all the fat, turn some of the clear soup into the tureen, and dish the meat and vegetables on a large platter; placing the meat in the centre, and slicing the vegetables and placing them

around it for a garnish. There will be soup enough for two days.

BAKED FISH.

Materials. — Any large fresh fish weighing from four to five pounds, three large crackers, quarter of a pound of pork, two table-spoonfuls of salt, quarter of a teaspoonful of pepper, half a table-spoonful of parsley, two table-spoonfuls of flour.

Scrape and wash the fish clean, and rub into it one table-spoonful of salt; roll the crackers fine, and add to them the parsley, half the pepper, half a table-spoonful of salt, a table-spoonful of chopped pork, and an eighth of a cup of water. Put this into the fish, and fasten it together with a skewer. Now cut gashes across the fish, about half an inch deep and two inches long; cut the remainder of the pork into strips and put them in the gashes. Now dredge well with flour. Put a tin sheet in a baking pan, lay the fish on this, cover the bottom of the pan with hot water, put in a rather hot oven, and bake one hour, basting very often with the gravy in the pan, and each time dredging with salt, pepper, and flour. The water must be renewed in the pan very often. When done, lift the fish out of the pan on the tin, and slide it carefully on the platter. Now set the baking pan on top of the stove, and if there is not gravy enough to make half a pint, add more water. Mix one teaspoonful of flour with cold water; stir it into the boiling gravy, season, and serve on the dish with the fish.

TOMATO SOUP.

Materials. — One quart can tomatoes, two heaping table-spoonfuls of flour, one table-spoonful of butter, one teaspoon of salt, one of sugar, one pint of hot water. Let tomatoes and water come to a boil; rub flour, butter, and one spoonful of tomato together; stir into boiling mixture; add seasoning. Boil all together fifteen minutes; rub through a sieve, and serve with toasted bread.

POTATO SOUP.

Materials. — Three potatoes, one pint of milk, half an onion, one stalk of celery, one half table-spoonful of butter, one teaspoon of salt, one eighth of pepper.

Pare potatoes and cover with boiling water; boil thirty minutes. While potatoes are boiling cut up onion and celery, and put on to boil with milk. When potatoes are done drain, and mash light and fine; then turn boiling milk on them; rub through a sieve, and serve *immediately*. This soup spoils if it is let stand, and is not good even when kept hot, but is very delicious if eaten as soon as cooked.

BAKED INDIAN PUDDING.

Materials. — One third cup of Indian meal, one cup of molasses, two and one half table-spoonfuls of butter, two table-spoonfuls of salt, one egg, two quarts of milk.

Let one quart of the milk come to a boil. Pour the *boiling* milk *gradually* on the meal, stirring all the

time; when perfectly smooth turn back into the boiler (which must be set into another of boiling water) and cook thirty minutes, stirring often. Now add the molasses, two table-spoonfuls of the butter, the cold milk, the egg, and salt. Butter a deep earthen dish, pour the mixture in, and bake in a moderate oven two and a half hours.

FOURTH LESSON.

Materials. — One pound of cold meat, one and a half pints of cooked salt-fish, two quarts of potatoes, one ounce of pork, four fifths of a cup of flour, three quarts of milk, three cups of Indian meal, three cups of rye, one half a cup of molasses, teaspoonful of soda, salt, pepper, two eggs, one cup of sugar, one table-spoonful of vinegar, fat for frying, two table-spoonfuls of butter, one cup of oatmeal, one cup of hominy.

MEAT HASH.

Chop fine any kind of cold meat (before chopping dredge with salt and pepper. This is always the best manner of seasoning hash, as by this means all parts will be seasoned alike). If you have *cold* potatoes, chop fine and mix with the meat; if they are *hot*, mash. Allow one third meat to two thirds potato. Put this mixture in the frypan with a little water to moisten it, and stir in a spoonful of butter; or, if you have nice beef drippings, use that instead of butter. Heat slowly, stirring often, and when warmed through cover, and let it stand on a moderately hot part of the stove or range twenty minutes. When ready to serve, fold as you would an omelet, and dish. Save all the trimmings and pieces that are left of all kinds of meat,

and have a hash once or twice a week. It does not hurt a hash to have different kinds of meat in it. Avoid having a hash (or indeed any other part of your cooking) greasy. It is a great mistake to think that seasoning anything highly with butter improves it; on the contrary, it often ruins it by disguising the natural flavor, and giving you an unhealthy dish. I have nothing to say against a moderate use of butter in cooking, but I do strongly protest against the immoderate use of it in soups, gravies, hashes, stews, and on meats and fish of all kinds.

FISH BALLS.

Chop very fine half a pint of cooked salt-fish (you will find the rule for cooking salt-fish in the chapter on fish). Boil six good-sized potatoes, and turn them into the tray, with the fish, as soon as they are done; now mash them light and fine with the potato-masher; mix thoroughly with the fish; taste to see if salt enough; add one table-spoonful of butter, and one egg, if you like, but they will be good without either. Shape into round balls about the size of an egg, and fry in boiling fat until they are a handsome brown. It will take about five minutes. If you like them very moist use one quarter of a cup of milk.

FISH HASH.

One half pint of finely chopped salt-fish, six good-sized cold-boiled potatoes chopped fine, one half cup of milk or water, salt and pepper to taste. Have two ounces of pork cut in thin slices and fried brown; take the pork out of the frypan, and pour some of

the gravy over the hash ; mix all thoroughly, and then turn into the frypan, even it over with a knife, cover tight, and let it stand where it will brown slowly for half an hour ; then fold over, turn out on the platter, and garnish with the salt pork.

OATMEAL MUSH.

Oatmeal, Indian meal, and hominy all require two things to make them perfect: that is, plenty of water when *first* put on to boil, and a *long* time to boil. Have two quarts of boiling water in a saucepan, and stir into it one cup of oatmeal ; let it boil one hour ; then add a generous half table-spoonful of salt. Boil one hour longer, stirring often.

HOMINY.

Wash in two waters one cup of hominy, stir it into a quart of boiling water, add a table-spoonful of salt, and boil from thirty to sixty minutes. Sixty are better than thirty. Stir often, and be careful that it does not burn. The fine hominy cooks more quickly than the coarse. To be eaten as a vegetable with meat, with butter and sugar, or with milk. It is much more nutritious than rice.

MINUTE PUDDING.

One pint of milk, one of water, nine table-spoonfuls of flour, one teaspoonful of salt, two eggs. Set the milk into a basin of hot water, and when it comes to a boil add to it one pint of boiling water. Have ready the flour, made into a smooth paste with one cup of milk, and mix with this paste, after they are

well beaten, the two eggs. Now take the basin in which the milk and water are, and set upon the fire; let it boil up once, and then stir in the thickening; beat it well, that it may be smooth, and cook three minutes longer. Serve with vinegar sauce.

VINEGAR SAUCE.

One cup of boiling water, one of sugar, one table-spoonful of flour, one of vinegar, and a little nutmeg. Mix the flour with a little cold water, and stir into the boiling sugar and water; then stir in the vinegar and nutmeg, and boil twenty minutes. Wine sauce is very good made in this manner, using wine instead of vinegar. Season with a little salt.

BROWN BREAD.

Very nice. Three cups of Indian meal, three of rye, one half of molasses, one table-spoonful of salt, one teaspoonful of saleratus; wet with one and one fourth quarts of milk. Steam five or six hours. This will make enough to fill a two-quart pan.

FIFTH LESSON.

Materials. — Six pounds fish, five potatoes, one large onion, three fourths pound pork, one and one half pounds beef, twelve large apples, one cup molasses, three and one half cups rice, one cup raisins, four and one fourth quarts milk, one table-spoonful cinnamon, one quart flour, four table-spoonfuls butter, two and one fourth cups sugar, six crackers, salt, pepper, one teaspoon cream of tartar, one half soda, flavoring, three eggs.

FISH CHOWDER.

Take either a cod or haddock ; skin it (loosen the skin about the head, and draw it down towards the tail, when it will peel off easily). Then run your knife down the back close to the bone, which you take out. Cut your fish in small pieces and wash in cold water. Put the head and bones on to boil in two quarts of hot water ; have five potatoes pared and sliced thin ; put a layer of potatoes and then one of fish in the kettle ; dredge well with salt, pepper, and flour ; keep putting in alternate layers of potatoes and fish until all is used. Take about one and one half table-spoonfuls of salt in all, one half a teaspoonful of pepper, and one small cup of flour. Fry brown half a pound of salt pork, and then add to it the onion cut in thin

slices ; fry slowly for ten minutes ; now pour all through a strainer, over the fish and potatoes, pressing all the gravy through ; then pour on the pork and onions in the strainer one pint of hot water, to get all the goodness out of them. Now strain the water in which the head and bones were boiled into the pot, cover, and let simmer gently ten minutes ; then taste to see if seasoned enough ; if not add more ; and also five crackers. Cover, and simmer ten minutes longer. Serve.

BEEF OLIVES.

One and one half pounds beef, cut very thin. Trim off the edges and the fat ; now cut into strips three inches wide and four long ; season well with salt and pepper ; chop the trimmings and the fat very fine ; add to it three table-spoonfuls of powdered cracker, one teaspoonful of sage and savory mixed, one fourth of a teaspoonful of pepper, two teaspoonfuls of salt. Mix all very thoroughly, and spread on the strips of beef ; then roll them up, and tie with twine. When all are done roll in flour. Have a quarter of a pound of pork fried brown ; take the pork out of the pan and put the olives in ; fry brown, then put them in a small saucepan that can be covered tight. Now into the fat remaining in the pan put one table-spoonful of flour, and stir until perfectly smooth and brown ; then pour in gradually nearly a pint and a half of boiling water. Stir for two or three minutes, season to taste with pepper and salt, pour over the olives, cover the saucepan, and simmer two hours. Take up and cut the strings with a sharp knife ; place them in a row on the dish, and pour the gravy over them.

VEAL OLIVES.

Veal olives are made in the same manner, except that a dressing like chicken dressing is made for them. For one and a half pounds of veal take three crackers, half a table-spoonful of butter, half a teaspoonful of savory, one fourth of sage, one teaspoonful of salt, a very little pepper, and one eighth of a cup of water. Spread the strips with this and proceed as for beef olives.

BOILED RICE PUDDING.

Pick and wash clean one cupful of rice, and put into a basin with a pint and a half of cold water; set on the stove where it will cook slowly, or, better still, set into another basin of water, and cook slowly. When the rice has absorbed all the water, turn on it one quart of new milk, and stir in one table-spoonful of salt; let this cook two hours, stirring often. Serve with sugar and cream.

BOILED RICE PUDDING, NO. 2.

Pick and wash one cup of rice, and boil in one quart of boiling water fifteen minutes, and then drain dry. Wring a pudding-cloth out of boiling water, and spread in a deep dish, and turn the rice into it, and sprinkle in one cup of raisins and a table-spoonful of salt; tie the cloth loosely that the rice may have room to swell, and boil two hours. Serve with lemon sauce, or sugar and cream.

BAKED RICE PUDDING.

Boil half a cup of rice in one pint of water thirty minutes, and then add one quart of new milk, and boil thirty minutes longer; then beat together one cup of sugar, three eggs, two teaspoonfuls of salt, and a little lemon or nutmeg; stir this into the rice and turn the mixture into a buttered pudding-dish, and bake thirty minutes. To be eatén without sauce.

BAKED RICE PUDDING, NO. 2.

Pick and wash one cup of rice; put it into a dish that will hold two quarts or more, mix with it two teaspoonfuls of salt, one table-spoonful of cinnamon, four of sugar, and three pints of milk. Set this in a moderate oven, and stir once in every half hour. After it has been baking two hours, stir in one pint more of milk, and bake one hour longer.

APPLE DOWDY.

Pare and quarter about one dozen good tart apples, put them in a kettle with one cup of molasses, a small piece of butter, and one pint of hot water. Set this on the fire, let it come to a boil, and while it is heating make a paste with one pint of flour, one teaspoonful of cream of tartar, one half of saleratus, and a small cup of milk; roll this large enough to fit into the kettle, and when the mixture begins to boil put the paste in, cover tight, and boil gently twenty minutes. To be eaten without sauce. This is very nice when the apples are tart and it is made well.

Beet greens	1 hour.
Onions	1 to 2 hours.
Beets	1 to 5 hours.
Turnips, white	45 to 60 minutes.
" yellow	1½ to 2 hours.
Parsnips	1 to 2 hours.
Carrots	1 to 2 hours.

Nearly all these vegetables are eaten dressed with salt, pepper, and butter, but sometimes a small piece of lean pork is boiled with them, and seasons them sufficiently.

SEVENTH LESSON.

Materials. — Two quarts of beans, one and a half pounds of salt pork, eight potatoes, one beet, one turnip, one carrot, one onion, three eggs, one head of lettuce, four table-spoonfuls of oil, one large cup of vinegar, one cup of milk, one table-spoonful of mustard, salt, pepper, one table-spoonful of molasses.

SALADS.

Salads are quickly and easily made, and can be prepared from almost any of the cold vegetables. We do not give in this lesson (for practice) any of the rich salads, but shall give a few receipts that the pupils may use if the teacher thinks best. In that case the plain salads must be omitted.

FRENCH SALAD DRESSING.

Three table-spoonfuls of oil, one table-spoonful of vinegar, one saltspoonful of salt, one half of pepper. Put the salt and pepper in a cup and then add one table-spoonful of the oil; when all is thoroughly mixed add the remainder of the oil and the vinegar. This is dressing enough for a salad for six persons. If you like the flavor of onion, grate a little of the juice in the dressing.[1]

[1] Onion juice is got by first peeling the onion and then grating

BOILED SALAD DRESSING.

Three eggs, one table-spoonful of oil, one table-spoonful of sugar, one table-spoonful of mustard, scant, one table-spoonful of salt, one teacup of milk, one teacup of vinegar.

Put oil, salt, mustard, and sugar into a bowl, stir until perfectly smooth, then add the eggs, beat well; now add vinegar, then milk; now place the bowl in a basin of boiling water, and stir until it thickens like soft custard. The time of cooking depends upon the thickness of the bowl. If it is a common white bowl and the water is boiling when it is placed in it and kept boiling all the time, it will take from eight to ten minutes, but if the bowl is very thick it will take from twelve to fifteen minutes. This will keep two weeks if bottled tight and kept in a cool place.

VEGETABLE SALAD.

Six potatoes, one half of a small turnip, one half of a carrot, one small beet. Cut potatoes into small slices, the beet a little finer, and the turnip and carrot *very fine;* chop (with a *sharp* knife) a spoonful of green parsley. Mix all thoroughly, sprinkle with a scant teaspoonful of salt, unless the vegetables were salted in cooking, and then add the whole French dressing or half a cup of the boiled dressing. Keep very cool until it is served.

with a coarse grater, using a good deal of pressure. Two strokes will give about two drops of juice, which will be about enough for the above rule.

POTATO SALAD.

Ten potatoes cut fine, the French dressing, with four or five drops of onion juice in it, one table-spoonful of chopped parsley.

LETTUCE SALAD.

Two small or one large heads of lettuce; break all the leaves off carefully and wash each one separately and then throw them in a pan of ice water, where they should stand at least an hour; then put them in a wire basket or a coarse towel and *shake* out all the water. Either cut with a very sharp knife or tear into large pieces. Mix the French dressing with this and serve immediately. Beets, cucumbers, tomatoes, cauliflower, asparagus, etc., can be each served as a salad with the French or boiled dressing. Cold potatoes and cold beef, mutton or lamb, cut up fine and finished with either dressing, make a nice salad.

ADDITIONAL SALADS.

RICH SALAD DRESSING.

One table-spoonful of mustard, one table-spoonful of sugar, one tenth of a teaspoonful of cayenne pepper, one teaspoonful of salt, yolks of three uncooked eggs, juice of half a lemon, one quarter of a cup of vinegar, one pint of oil, one cup of whipped cream.

Beat yolks of eggs and the dry ingredients (until they are very light and thick) either with a silver or wooden spoon, or, better still, with a second sized Dover beater; then add a few drops of oil at a time

until it becomes very *thick* and rather hard: after it has come to that stage the oil can be added more rapidly. When it gets so thick that the beater turns hard, add a little vinegar. When the last of the oil and vinegar is added it should be *very thick.* Now add the lemon juice and the whipped cream, and set away on the ice for a few hours, unless you are ready to use it. The bowl in which the dressing is made should set in a pan of ice water all the time it is being beaten. The cream may be omitted.

LOBSTER SALAD.

Lobster salad is made by cutting the lobster rather fine with a sharp knife; then, for every quart of lobster, mixing two table-spoonfuls of vinegar, a teaspoonful of salt, one half of pepper, and seasoning the lobster with it. Now set away on the ice for an hour or two. Prepare the lettuce the same as for lettuce salad; add to the lobster, at the time of serving, in the proportion of half as much lettuce as lobster; season to taste with dressing. About half a pint of dressing to three pints of salad.

CHICKEN SALAD.

Made the same as lobster, using chicken instead of lobster, and celery instead of lettuce.

BAKED BEANS.

Examine and wash one quart of dry beans (the pea bean is the best for baking), and put them in a pan with six quarts of cold water; let them soak over night. In the morning wash them in another water,

and place them on the fire with six quarts of cold water and a pound of mixed salt pork. If they are the present year's beans they will cook enough in half an hour, if older one hour. Drain, and put half of them in the bean-pot; then put in the pork which you have scored, and now the remainder of the beans, one table-spoonful of salt, and one of molasses; cover with boiling water. Bake very slowly for ten hours, adding boiling water whenever the beans begin to grow dry.

STEWED BEANS.

Wash and soak over night one quart of beans (scarlet runners are the best). In the morning set them on the fire with half a pound of mixed salt pork. They will cook in four hours, but are better cooked five; if the pork does not flavor it enough season with a little salt.

EIGHTH LESSON.

POULTRY.

TO CLEAN POULTRY.

First singe over blazing paper or alcohol; then cut off the feet and tips of the wings, and the neck as far as it looks dark; then, with the blade of a knife take out all the pin-feathers; turn the skin of the neck back, and with the forefinger and thumb draw out the crop and windpipe; cut a slit in the lower part of the fowl, and draw out the intestines, being careful not to break the gall-bag, as it will spoil the flavor of the meat. It will be found near the upper part of the breast-bone and attached to the liver. Wash thoroughly in several waters, and drain. If the poultry is at all strong, let it stand in water several hours, with either charcoal or saleratus. Split the gizzard, and take out the inside and inner lining; wash, and put on to boil in two quarts of cold water (this for the gravy).

ROAST TURKEY.

Prepare as directed; make a dressing with six pounded crackers, one teaspoonful of pepper, one table-spoonful of salt, one teaspoonful of sage, one of summer savory, one of parsley, two eggs, butter the

size of an egg, and cold water to moisten; stuff the turkey with this; stuff the breast first, and the remainder put in the body. Now cross and tie the legs down tight; run a skewer through the wings, fastening them to the body; fasten the neck under the body with a skewer, and tie all with twine. Rub the turkey with salt, and spit it; baste often with the drippings and flour, and occasionally with butter. About fifteen minutes before dishing baste with butter, and dredge on a little flour; this will give it a frothy appearance. For eight pounds, allow one hour and three quarters, if roasted in the tin-kitchen; if in the oven, one hour and a half, and fifteen minutes for every pound more. Serve with giblet gravy and cranberry sauce.

To make the gravy: Boil the heart, gizzard, liver, and neck in two quarts of water two hours; then take them up and chop the gizzard and heart, braid the liver, and put them back again; thicken with one table-spoonful of flour wet with cold water; season with salt and pepper. Let this simmer one hour longer, and when you dish the turkey turn the drippings into this gravy; boil up once, and send to the table. Make all the gravy for poultry in this manner, omitting the chopped gizzards in chicken gravy.

ROAST CHICKEN.

Prepare, stuff, and truss the same as turkey. A pair of chickens, weighing each two and a half pounds, will require an hour and a quarter to roast if in the tin-kitchen; one hour, if in the oven.

ROAST GOOSE.

Prepare as directed for poultry, and stuff the body with a dressing made in the following manner: Pare and boil ten potatoes; mash them and mix with one fourth of an onion chopped fine one table-spoonful of sage, one of salt, one teaspoonful of pepper, a small piece of butter. Truss, and roast (if it weighs ten pounds) one hour and three quarters if in the tin-kitchen, but if in the oven one hour and a half. Make the gravy as for turkey, and serve with apple sauce.

Skim off all the fat before putting the drippings in the gravy.

ROAST DUCK.

Prepare the dressing as for goose, and roast before a hot fire forty minutes, or if in the oven have it very hot and roast thirty minutes. Serve with either apple-sauce or currant jelly. Make gravy the same as for turkey.

This time cooks the goose and ducks rare.

ROAST PARTRIDGES.

Clean and truss; then lard and roast thirty minutes. Serve with currant jelly. To make the gravy: Put one table-spoonful of butter into a basin, and when it boils up stir in one table-spoonful of dry flour; stir until a dark brown; then pour on half a pint of boiling water. Season with salt, pepper, the partridge drippings, and a table-spoonful of currant jelly. Or, serve with bread sauce, the rule for which you will find under sauces.

To lard a bird: Cut fat salt pork into thin, narrow

slices, and put one end of the slice through the eye of a larding needle. (You can obtain one at any kitchen furnishing store.) Now run the needle under the skin of the bird, and draw the pork half way through, having the pieces about an inch apart.

ROAST GROUSE.

If you stuff them, make the dressing the same as for turkey; but they are not often stuffed. Roast thirty minutes, and serve with currant jelly. The gravy made the same as before directed.

ROAST PIGEONS.

Lard and roast the same as partridges. Make the gravy the same, with the addition of one fifth of a teaspoonful of clove and half a wineglassful of claret. The pigeons must be young, or they will not be nice roasted.

SMALL BIRDS.

Woodcock, quail, snipe, and plover may be cooked in the same manner as partridges, allowing fifteen minutes to roast. Serve on toast.

NINTH LESSON.

SAUCES.

DRAWN BUTTER.

BEAT one cup of butter and two table-spoonfuls of flour to a cream, and pour over this one pint of boiling water. Set on the fire and let it come to a boil, but do *not boil.* Serve immediately.

EGG SAUCE.

Chop up two hard-boiled eggs, and stir into drawn butter.

OYSTER SAUCE.

Set a basin on the fire with half a pint of oysters and one pint of boiling water; let them boil three minutes, and then stir in half a cup of butter beaten to a cream, with two table-spoonfuls of flour; let this come to a boil, and serve.

CELERY SAUCE.

Chop fine two heads of celery, and boil one hour; at the end of that time have about a pint and a half of water with it, and stir in two table-spoonfuls of flour wet with cold water. Boil this ten minutes, and then stir in two table-spoonfuls of butter. Season with pepper and salt, and serve.

CAPER SAUCE.

Into a pint of drawn butter stir three table-spoonfuls of capers.

MINT SAUCE.

Chop fine half a cupful of mint, and add to it a cup of vinegar and a table-spoonful of sugar.

CREAM SAUCE.

One cup of milk, one teaspoonful of flour, one table-spoonful of butter, salt, pepper.

Put one table-spoonful of butter into a small frypan, and when it gets hot, but *not brown*, add the flour; stir until perfectly smooth; then add *gradually* the cold milk; let it boil up once, season to taste with salt and pepper, and serve. This is nice to cut cold potatoes into and let them just heat through; they are then called *creamed potatoes;* also for a sauce for vegetables, for omelets, for fish, for sweet-breads, or, indeed, for anything that requires a white sauce. If you have plenty of cream use that and omit the butter.

BREAD SAUCE, FOR GAME.

Two cups of milk, one cup dried bread crumbs, one quarter of an onion, two table-spoonfuls of butter, salt, pepper.

Dry the bread in a warm oven, and then roll into rather coarse crumbs; now sift them, and the fine crumbs which come through the sieve, and which make about one third of a cupful; put on to boil with the milk and onion; boil ten or fifteen minutes, then add one table-spoonful of butter, and seasoning, skim

out the onion. Fry the coarse crumbs a light crisp brown in one table-spoonful of butter, which must be *very hot* before the crumbs are added. Stir over a hot fire for two minutes, being careful not to burn. Cover the breast of the roast birds with these, and serve the sauce poured around the birds or in a gravy dish.

TOMATO SAUCE.

One quart of canned tomatoes, two table-spoonfuls of butter, two of flour, eight whole cloves, one small slice of onion.

Cook tomatoes ten minutes with onion and cloves. Heat the butter in a small frypan and add the flour; stir over the fire until smooth and brown; then stir into the tomatoes, season to taste with salt and pepper, *rub* through a strainer which is fine enough to keep back all the seeds. This sauce is nice for fish, meat, and macaroni.

HOLLANDAISE SAUCE.

One half teacupful of butter, juice of half a lemon, yolks of two eggs, a speck of Cayenne pepper, one half cup of boiling water, one half teaspoonful of salt.

Beat butter to a cream, then add yolks of eggs one by one, then lemon juice, pepper, and salt. Now place the bowl in which is the mixture in a saucepan of boiling water, beat with an egg beater until it begins to thicken, which will be in about one minute; then add boiling water, beating all the time; as soon as it is like a soft custard it is done. It will take about five minutes over the fire if the bowl is thin

and the water boils all the time. For fish and meats, to be poured around the article on the dish.

MILK SAUCE FOR FISH.

One and a half pints of milk, two table-spoonfuls of flour, one half of butter, one half of a small onion, two sprigs of parsley, one heaping teaspoonful of salt, a speck of pepper.

Put a pint of milk on to boil, with the onion and parsley, mix the flour to a smooth paste with part of the half pint of milk; then add the rest to make it very thin, and when the milk boils stir this into it; let it boil ten minutes longer, then add butter and salt, and strain.

APPLE SAUCE.

Pare, quarter, and core nice tart apples. Make a syrup of two quarts of water and one cup of sugar; simmer the apples in this until tender, but do not break them; then lay in an earthen dish; do this until they are all cooked (do not put many in the syrup at a time), and then let the syrup get cool, and turn on the apples.

BAKED PEARS.

Put the pears in a deep earthen dish or a baking pan, and to a dozen good-sized pears allow half a cup of sugar and a pint and a half of water. Bake in a moderate oven two hours and a half, or three. They will not keep many days cooked in this manner, but they are nice. Sweet apples are cooked in the same manner.

STEWED PRUNES.

Wash the prunes in warm water and rub them well between the hands. Put them in a kettle that you can cover tight, with two quarts of water to one of prunes. Stew them gently two hours. These will not keep more than two days in warm weather, but cooked in this way they do not require any sugar, and are very nice.

CODDLED APPLES.

Pare and core with an apple corer, cook the same as for apple sauce; but allow one pint of sugar to one quart of water.

CRANBERRY SAUCE.

Pick and wash the cranberries, and put in the preserving kettle with half a pint of water to one quart of berries; now put the sugar on top of the berries, allowing a pint of sugar to a quart of berries. Set on the fire and stew about half an hour. Stir often to prevent burning. They will not need straining, and will preserve their rich color cooked in this way. Never cook cranberries before putting in the sugar. Less sugar may be used if you do not wish them very rich.

TENTH LESSON.

OMELETS.

BEAT lightly two eggs, and stir in one table-spoonful of milk and a pinch of salt. Heat the omelet pan hot, and then put in half a table-spoonful of butter, and when melted turn in the beaten eggs; set on the fire, shake the pan, cook until a light brown; then fold the omelet and serve on a hot dish. Ham, mushroom, lobster, chicken, and all kinds of omelets are made by chopping up the meat, and laying it between the folds before dishing.

QUAKER OMELET.

Three eggs, one and a half table-spoonfuls of corn starch, half a cup of milk, half a teaspoonful of salt, one table-spoonful of butter.

Put a good sized omelet or frypan, with a tin cover, on to heat. Beat the yolks of the eggs, the salt, and the corn starch together; then beat the whites to a stiff froth, add to the yolks, then add the milk; butter the hot pan with the table-spoonful of butter, pour the mixture in, and cover with the hot cover; keep where it will not burn, but will brown, for about seven minutes, fold and serve on a hot dish. This omelet is improved by having the cream sauce poured around it.

OYSTER STEW.

Drain all the liquor from the oysters; put it into a porcelain kettle, and let it come to a boil; then skim off all the scum. Now turn in the milk, which you have let come to a boil in hot water. (Allow one quart of milk to one pint of oysters.) Stir in also one table-spoonful of butter or more, salt and pepper to taste. Now put in the oysters, let them boil up once, and serve with a dish of oyster crackers.

OYSTER SOUP.

Wash one quart of oysters, if they are solid, in one quart of cold water; if not, one pint of water; drain the water through a colander into the soup-kettle; set the kettle on the fire, and when the liquor comes to a boil skim it; then add one quart of rich new milk; just before it comes to a boil, turn in the oysters, and thicken with two table-spoonfuls of corn starch wet with milk; then stir in half a cup of butter, and season with pepper and salt. Let this boil up once, and serve immediately. Be very careful that they do not burn. A safe way is to boil the milk in a basin, which is set into another of water, and then turn it on the oysters just before removing it from the fire.

SCALLOPED OYSTERS.

Put a layer of oysters in an oval dish, and dredge in a little salt and pepper, and lay on a few small pieces of butter; then a layer of rolled crackers, and another of oysters; dredge the oysters as before, and cover with cracker; over the cracker lay on small

pieces of butter. Bake twenty minutes in a quick oven. Allow four crackers, two table-spoonfuls of butter, and one teaspoonful of pepper to one quart of oysters. Fill the dish to within an inch of the top.

FRIED OYSTERS.

Drain the oysters on a sieve; roll them in cracker crumbs, and fry in boiling lard a light brown. Serve on brown-bread toast. When you desire them fried in batter, make one as for apple fritters, and fry in boiling lard. Have the dishes very hot.

BROILED OYSTERS.

Prepare in crumbs as for frying, and broil a light brown. Examine oysters carefully to see that there are not pieces of shell among them. Some oysters need more salt than others.

MACARONI, BOILED.

Break up and wash a pint bowl full of macaroni, and put in a shallow basin, and cover with cold water. Set this basin into another of warm water, and place on the fire; after fifteen minutes, add a pint of milk and a teaspoonful of salt; let it cook ten minutes longer, then add a table-spoonful of butter, and cook five minutes more, and dish. Be careful not to break the macaroni in dishing. The boiled macaroni which remains from one dinner can be used for the next, by preparing it in the following manner: Butter a shallow dish, and turn the macaroni into it; than grate over it old cheese, and brown.

MILK TOAST.

Put one quart of milk on to boil. Mix two table-spoonfuls of flour with half a cup of cold milk, stir this into the boiling milk and let it boil ten minutes, then add one table-spoonful of butter, and one large teaspoonful of salt. Now dip the bread in, and serve. The bread must be toasted as carefully for this as for dry toast. The bread must be stale to make good toast.

BAKED CUSTARD.

One quart milk, four table-spoonfuls of sugar, four eggs, one teaspoonful of salt, a little nutmeg.

Beat sugar, salt, and eggs together with a spoon, then add the milk. Fill the custard cups, grate on a little nutmeg, and place the cups in a deep baking pan, then nearly fill the pan with warm water. Bake in a moderate oven till firm in the centre. It will take from twenty to forty minutes to bake them, all depending upon the heat of the oven. The slower they bake the richer and smoother they will be. Try them by running a knife through the centre; if they are firm they are done.

STEAMED CUSTARDS.

Steamed custards are made the same as baked, only that they are steamed from twelve to fifteen minutes over a kettle of boiling water.

ELEVENTH LESSON.

SICK-ROOM COOKERY.

One of the things which every woman ought to know, no matter what her station in life, is how to cook for the sick, and also how to care for them and their rooms. Some of the first necessities of the sick are quiet, fresh air, and cleanliness; the next is proper food, properly cooked, and given at the right time. Many persons wonder why they do not get well, and blame the physician for their long illness, when all the trouble is that they do not have fresh air enough, they are not bathed often enough, their own and the bed linen are not changed often enough. They see too many people, and their food is not of the right kind nor cooked properly. I am sure that many kind people would be terribly shocked if they were told that they had killed their friends, and yet it is being done every day simply by the neglect of the simplest remedies. Then remember and keep plenty of fresh air in the sick-room, keep it clean and quiet, wash the patient every day; if there is fever use a little soda in the water, only wash a small part of the body at a time, and keep the rest covered. A sponge to wash with and a soft towel to wipe with, keep both sponge and towels perfectly clean and fresh. Do *not*

whisper or walk on tiptoes in a sick-room. If you have anything to say that you do not wish the patient to hear *leave the room.* There is nothing that is more trying to a sick person than to have a conversation which he cannot understand going on in the room. If you employ a physician *follow his directions exactly;* if you cannot do that, it is just as well not to have one; remember that he has made the study and practice of medicine a life-work, and there is every reason for believing that he knows more about the case than you do. When the physician asks for a report of the symptoms of the patient, be sure that you give them, as far as you can remember, truthfully. These remarks may seem out of place in a lesson on cookery, but as sick-room cookery nearly always devolves upon the person who takes care of the sick, it seems that this is as good as any place.

Do not cook much of anything. A well person tires of one dish soon, and a sick person is much more liable to do so. Do not feel vexed if after much care and labor you have prepared an article and the patient will not touch it. Always keep in mind that a sick person is never reasonable, and do as you would be done by. Do not keep a patient waiting for his food.

BEEF TEA.

Cut half a pound of lean beef into very small pieces; do not have a grain of fat on it, and put into a bottle that has a large opening (an olive or horseradish bottle will be nice); put in half a cup of cold water, and cork tight; set this in a basin of cold water, and place on the fire where it will come to a boiling point, but

not boil; keep it at this temperature for two hours, then strain, and season with salt.

ANOTHER BEEF TEA.

Cut half a pound of lean beef (the round is the best) into dice. Put into a saucepan, with a teaspoonful of salt, one of flour, and one fourth of pepper. Pour on this a large pint of cold water. Let it stand an hour or two, then put on the fire; bring slowly to a boil, and boil slowly for an hour. If it has boiled away too much, add a little hot water; but this rather hurts it. Skim off carefully every particle of fat. This tea is more palatable than the other, and can be taken by those not extremely sick.

SACK POSSET.

Pound one Boston cracker, or one soda biscuit. Put it in a pint of cold milk; set it on the fire, and simmer fifteen minutes. Beat together one egg, one wineglass of wine, a little sugar, salt, and nutmeg. Turn this into the simmering milk, stirring constantly; boil [illegible] once, and take from the fire immediately.

CHICKEN BROTH.

Put the bones and about one pound of the lean meat of chicken into a saucepan with three pints of water. When it comes to a boil, skim well. Simmer three hours, and strain and salt. If the patient can bear it, a little rice or tapioca boiled with it is an improvement.

OATMEAL GRUEL.

Into one quart of boiling water sprinkle two table-spoonfuls of oatmeal; let this boil forty minutes; season with salt, strain, and serve. If sugar, milk, or cream is wished, it may be added.

INDIAN MEAL GRUEL.

One quart of boiling water; stir into this one table-spoonful of flour and two of Indian meal, mixed with a little cold water. Boil thirty minutes. Season with salt, and strain. Use sugar and cream if you choose. If flour is not liked use another table-spoonful of meal instead.

PLUM PORRIDGE.

Into one quart of boiling milk stir two table-spoonfuls of flour mixed with cold milk; put in a handful of raisins and a little grated nutmeg. Boil twenty minutes. Season with salt, and strain.

CORN TEA.

Brown, and pound in a mortar, one cup of sweet dry corn; pour on this two cups of boiling water, and steep fifteen minutes. This is very light and nutritious, and can be taken when the patient is very weak.

WINE WHEY.

Let one cup of new milk come to boil, and then stir in half a wineglass of sherry wine. Boil a moment and strain.

VINEGAR WHEY.

Boil one cup of milk, and stir in one table-spoonful of vinegar; if this does not make it whey, stir in a little more; when it curdles, strain.

SOUR MILK WHEY.

To one cup of boiling sweet milk, add one cup of sour milk, and strain.

TWELFTH LESSON.

SICK-ROOM COOKERY. — *Continued.*

BEEFSTEAK.

HAVE a very small piece of sirloin steak cut rather thick. When everything is ready on the tray, put the steak over a clear coal fire to broil; cook eight minutes; season with salt; dish on a warm plate, and serve *immediately.*

MUTTON OR LAMB CHOP.

Mutton or lamb chops are cooked and served the same way as beefsteak, only first trimming off all the fat.

If the patient cannot eat rare meat, have the steak and chops cut rather thin.

CREAM TOAST.

Let half a cup of cream come to a boil, and season with salt. Have two slices of bread toasted a nice brown; dip them in the cream, and dish; pour the remaining cream over them. Serve immediately.

RICE COFFEE.

Brown rice as you would the coffee bean, and then either grind or mash in the mortar; take half a cup

of the ground rice, and pour about a quart of boiling water over it and let it stand about ten or fifteen minutes; then strain and sweeten with loaf sugar and season with boiled milk. Drink of this freely. This is particularly nice for children.

FLOUR GRUEL.

Let one quart of fresh milk come to a boil, and then stir in one table-spoonful of flour which has been mixed with milk enough to make a smooth paste; boil this mixture thirty minutes, being careful not to let it burn. Season with salt and strain. The patient should be kept warm and quiet.

CUSTARD.

Whites of three eggs, one quarter teaspoonful of salt, two table-spoonfuls of sugar, a light grating of nutmeg, one pint of rich new milk.

Beat sugar, whites of eggs, salt, and nutmeg together; then add a little milk; beat a few minutes longer; add the remainder of the milk; turn into custard cups, and bake in a slow oven in a pan of warm water until they are firm in the centre.

EGGNOG.

One egg, one table-spoonful of sugar, one of water, one of milk, one of wine.

Beat the white of the egg to a stiff froth; then beat in the sugar; next the yolk; then milk and wine.

A GOOD DRINK FOR THE LUNGS.

Wash clean a few pieces of Irish moss ; put it in a pitcher, and pour over it two cups of boiling water. Set where it will keep at the boiling point, but not boil, for two hours. Strain, and squeeze into it the juice of one lemon. Sweeten to taste. If the patient cannot take lemon, flavor with wine, vanilla, or nutmeg.

ANOTHER DRINK.

Beat lightly one egg and one table-spoonful of sugar. Stir into this one cup of new milk, half a wineglass of wine, and a little nutmeg. This is nice without the wine.

ANOTHER DRINK.

Upon one teaspoonful of slippery-elm pour one cup of boiling water, strain, and season as Irish moss.

LEMONADE.

The juice of one lemon and one table-spoonful of sugar. Pour on this one cup of boiling water, and set away to cool.

CURE FOR HOARSENESS.

Bake a lemon or sour orange for twenty minutes in a moderate oven, then open it at one end and dig out the inside, which sweeten with sugar or molasses, and eat. This will cure hoarseness and remove pressure from the lungs.

BURNS.

Rub a little oil or butter on the burned part, and cover with soda. This is for slight burns, which many are always getting in the kitchen. If the air is kept from burns and cuts they will heal rapidly; for this reason burns are often covered with glue.

UNFAILING CURE FOR CONSTIPATION.

Three teacupfuls of coarse, clean wheat-bran, three of sifted flour, one heaping teaspoonful of cream of tartar, one half of soda, one of salt, seven of sweet butter. Mix with cold milk and roll into thin biscuit, and bake thoroughly in a moderately hot oven. They should be from one fourth to one third of an inch thick, and be cut with a small biscuit cutter.

Great care must be taken that they do not burn, and at the same time that they get *thoroughly baked.* They will keep a long time if kept in a tight tin box; they should be eaten at each meal. — *From Mr. Leonard Scott, after twenty years' experience.*

CURE NO. 2.

A little while before retiring, mix a table-spoonful of flaxseed in cold water enough to make it pour readily, and on going to bed drink this. It is not nauseating at all, and will act on the bowels without deranging them as drugs always do.

Drinking a glass of cold water at night and in the morning helps many persons. Eating fruit is also good.

MISCELLANEOUS ARTICLES.

REMARKS ON DIGESTION.

In the stomach is produced a liquid secretion called the gastric juice. This does not act upon starch or fat of any kind. The only thing it dissolves is the albuminous matter. Now, when this albuminous matter is not saturated with fat, the gastric juice acts upon it readily; but as in the case of pastry, doughnuts, fried meats, etc., where the whole mass is saturated with a fatty substance, it takes a long time before the gastric juice can get at the albuminous matter to act upon it: hence the distress by the overworking of the stomach; and if this kind of food is partaken of frequently the stomach force will be weakened and refuse to do its work. This will disarrange every other member of the digestive organs, and, in a short time, you have a first-class dyspeptic. All food, therefore, should be as light, porous, and free from fat as possible.

When fat is used, it should be in such a manner that it will separate readily from the other substances on entering the stomach. Alcohol retards digestion, and renders it incomplete, by coagulating the gastric juice. Food, when taken into the stomach either *very* hot or *very* cold, does not digest readily. Food taken when the body or mind is very tired does not digest

readily. Digestion goes on very slowly during sleep, but it is more complete, and repairs the waste of the body more thoroughly than the rapid digestion of the waking hours. Children digest food more rapidly than adults, and should, therefore, be given a light lunch when more than four hours intervene between the regular meals.

It is a great mistake to think that light breakfasts are better than substantial ones. The breakfast supplies the fuel for the great waste which goes on during the busiest part of the day, and therefore should be of a simple, nutritious character, and an abundant supply of it. Another mistake made by many persons is the taking of a number of hours of exercise before breakfast.

The stomach, while empty, is in a condition to receive disease. In a high, dry atmosphere, there is less danger from this habit; but in a country which is at all malarious it is one of the most dangerous things which can be done.

Regularity as to the time of eating is also one of the necessary things to be observed, that the digestion may be perfect. Pastry should be used very sparingly, puddings, fruits, and light desserts taking the place of pies.

The preparation of food should be made more a matter of conscience, with the housekeeper and cook, than it is at present. In planning the preparation of a dish the questions should not be, Is it convenient? and Will it please? but, Will it be healthful, mentally, morally, and physically? for the food we eat affects the three natures.

Then food, to do its highest and best work, must be of the best quality, prepared carefully (but always to retain its simplest form), partaken of regularly in a cheerful room and in cheerful company.

REMARKS.

Always measure flour after it has been sifted, unless told to measure before. Always sift Indian and rye meal, and never sift Graham or oatmeal. Always set milk into boiling water to boil, as it boils quicker in this way, and there will be no danger of burning. Save all the fat from soups, boiled and roast meats. The fat from beef, pork, and poultry keep for shortening or frying; and from ham, mutton, and soups, in which vegetables were boiled, for the soap grease. To clarify drippings, boil them a few minutes, and then cut in a raw potato and let it cook for five minutes, then drop in a pinch of saleratus, and strain. If all the drippings are taken care of it will be a great saving in a family. In many of the rules given here it has been very difficult to say just how much spice to use, as there is such a difference in tastes, so that each one must use her own judgment; but be careful that no one spice predominates. Always use twice as much cinnamon and nutmeg as you do clove. In making frosting, pudding sauce, and all kinds of delicate cake, use the powdered sugar, if possible. For rich cake, the coffee-crushed, powdered and sifted, is the best. For dark cake, the brown sugar will be found the nicest. It makes it richer. Save all the pieces of bread for dressing, puddings, and griddle-cakes. Tin is not very good to mix cake in, and

earthen dishes are always being broken. The stone china wash bowls are very good for this purpose. You can often find odd ones at the crockery stores, and they will last a lifetime for this purpose. In baking and frying cook everything *brown*. Bread and pastry are more healthful overdone than underdone.

One even quart of sifted flour is one pound; one pint of granulated sugar is one pound; two good-sized cups of butter are one pound. Do not buy large quantities of Indian and rye meal at a time, as they sour quickly. Keep all kinds of meal, flour, and meats in a cool, dry place. Keep tea, coffee, and extracts from the air. Never set anything into the ice-chest while warm, as it will heat the chest and absorb an unpleasant flavor from the chest. This is true of the cellar also. Keep a note-book for tried receipts, and for any changes which you wish to make in the receipts which you are constantly using. By thought and observation one can learn something new in regard to cooking every day, and at the time it will seem so important that you cannot forget it; but you will if you do not have it written.

ARTICLES FOR COOKING ROOM.

Large stove or range, — a stove is better than a range; two large tables, one dish pan, two rather small bread pans, four yellow bowls, from six quarts down; four white smooth-bottom bowls, two muffin pans, each containing twelve cups; four tin baking pans, two Russia iron baking pans, four large cooking spoons, six teaspoons, two table-spoons, one carving-

knife, one butcher's knife, one large carving-fork, two vegetable knives, two case knives, one second size Dover beater, one common wire beater, one bread board, one rolling-pin, six cups, holding half a pint each; two quart measures, one biscuit cutter, four deep tin plates, three wire toasters, one for fish, one for meat, and one for bread; one bean-pot, one pudding-dish, three frypans, Nos. 1, 3, and 6; three porcelain-lined stewpans, from two quarts to four; two two-quart tin basins, a hand-basin, three tin saucepans, one one pint, one three pints, one three quarts; meat rack, four bread-pans, one double kettle, one wire dishcloth, one linen dishcloth, four long towels for lifting pans, twelve dish towels, four rollers, one colander, one vegetable masher, one sieve, one strainer, one coffee-pot, one filter, one tea-pot, one chocolate pot, one deep Scotch kettle for frying, meat and bread boards, pail, broom, brush, dust-pan, duster, floor-cloth, sink-cloth, soap-dish, blacking brush, brown bread tin, steamer, dishes enough to set a table in the simplest manner, chopping-tray and knife.

If more than the simplest things are taught, of course a greater variety of utensils will be required.

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